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Sex-role orientation and vocational orientation of mothers and daughters

by

Judith Meredith Weeden Ziffer

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INTRODUCTION

Parents are the primary socializing agents of their children. As is true of all aspects of development, parental influence constitutes a significant factor in the child's vocational development (Barnett, 1971; Borow, 1966; Clausen, 1966; Elder, 1963; Simpson, 1962). Super (1969) contends that, not only is the early childhood experience in the family the basis for occupational choice, but also early family experiences are predictive of subsequent vocational success. The process by which a person establishes vocational goals plays a central role across the life span, and by the age of 5, the child is involved in the career developmental process. Borow (1966) indicates that vocational development is a gradual process encompassing many years.

The first stage in vocational development proposed by Borow (1966) primarily reflects the impact on the child of the parents' modeling of the work role. In this setting, a child first learns what constitutes an appropriate work role for each sex. This knowledge of suitable behavior becomes integrated in the developmental process and influences all aspects of the individual's growth and development.

Not only do research studies seem to lend support to the postulates concerning the acquisition of sex-role as espoused by social learning theorists, but research also seems to link the vocational orientation of children to the acquisition of sex-role. For example, Looft (1971a, 1971b) ties vocational choice to traditional sex-stereotyped occupations, and more recent research continues to lend support to his finding

(Beuf, 1974; Hewitt, 1975; Konle & Piliavin, 1976; Tremaine & Schau, 1979). This more recent research indicates that cultural information concerning sex appropriate occupations is disseminated early in the developmental process, and the evidence suggests that children's vocational aspirations are sex-typed before they enter school. Beuf (1974) contends that children see the world of work as a dichotomy, divided into mutually exclusive male and female tasks. Vondracek and Kirchner (1974) conclude that females limit the parameters of vocational choice earlier than their male peers.

Much of the research concerning vocational development has focused on men and a paucity of research exists concerning the development of vocational interests among women (Tolbert, 1974). Until recently, a woman's work role was assigned to her home, and, in general, women were not encouraged to prepare for work outside the home (Nye & Hoffman, 1963). While today more women are employed than in the past, most are employed in positions subordinate to men. Most employed mothers view their work as secondary to their primary role of wife and mother, and most married women work primarily to increase the family income (Ferber & Huber, 1979; Hartley, 1960; Kacerguis & Adams, 1976; Kagan, 1964).

However, indications are that more women are becoming employed in traditionally masculine occupations, and, currently, more women are choosing to work for intrinsic satisfaction and not merely for economic gain. Many women are electing to delay marriage while others are deciding not to marry at all. In addition, some married women are choosing to limit family size, and the age at the birth of the first

child is older than was true in the past (Philliber & Hiller, 1979; Roper & Labeff, 1977; Scanzoni, 1978; U.S. Bureau of the Census, 1978). Furthermore, research findings suggest that the definition of sex-appropriate behavior has been changing over the last 40 years, and a move away from tradition and toward androgyny has been observed (Bem, 1978; Christensen, 1977; Mason et al., 1976; Roper & Labeff, 1977; Rosenberg & Sutton-Smith, 1960).

Since there appears to be support for the notion of androgyny (situationally appropriate behavior independent of traditionally assigned sex-typed responses), some change in the socialization process of children can be inferred. Changes occur in society as different rules for appropriate socialization evolve. If one assumes that the child's sex-role orientation arises from reinforcement contingencies and that the like-sex parent is the primary model influencing the acquisition of sex-role, then the degree of masculinity-femininity modeled by that parent will determine the extent to which masculinity or femininity is displayed by the offspring.

Traditionally, the father has been charged with the instrumental role in the family, protector, provider, independent, and assertive. On the other hand, the mother has been charged traditionally with the expressive role, nurturant, dependent, tender, and retiring (Bem, 1978). A woman's vocation has been homemaking and she has been expected to provide for the emotional needs of her husband and their children. From the behavior displayed by the mother, the daughter learns how an adult woman is supposed to behave. Daughters learn how to behave as women

by internalizing, defining, and displaying appropriate sex-role behavior consistent with their mother's behavior. The child's early play imitates her mother's sex-role orientation. Therefore, traditional mothers should produce traditional daughters, and androgenous mothers should produce daughters who are nontraditional in sex-role performance. The daughters with androgenous mothers should be less likely to be feminine than daughters of traditional mothers (Etaugh, 1974; Woods, 1972). Differences in sex-typing occur because different response tendencies are reinforced. The degree of sex-typing also affects the child's subsequent vocational aspirations because the child is influenced by what he/she has been taught is a sex-appropriate vocation (Barnett, 1971; Kagan, 1964; Kagan & Moss, 1962).

Research by Kraus (1964) and Douvan and Adelson (1966) supports the notion that girls with traditional sex-role orientations tend to have traditional mothers, and girls with nontraditional mothers tend to have a nontraditional sex-role orientation. In these studies, daughters with nontraditional mothers were more achievement motivated and competitive than their traditional peers. More recent studies also support these findings (Etaugh, 1974; Woods, 1972). Furthermore, the logical expansion of this argument would be that, not only are there differences in these daughters in terms of competitiveness and achievement motivation, but the development of vocational goals should be different as well.

Theoretical Background

While gender is determined biologically, the acquisition of sex-role reflects not only one's physical attributes, but also the inter-relationship of psychological and sociological factors on the growth and development of the individual. Although no single theory has evolved which can totally explain all differences between and within individuals, three major theoretical constructs can be identified in the literature, and each of these contributes a unique dimension to the explanation of sex-role development (Maccoby & Jacklin, 1974; Mischel, 1970; Mussen, 1969).

The first of these theoretical explanations of human behavior in the development of sex-role was the psychoanalytic approach. Psychoanalytic theorists explain sex-role as the product of identification, and Freud's theory of psychosexual stages of development is evident in contemporary psychoanalytic discussions (Mussen, 1969). These theorists contend that sex-role identification develops spontaneously without the direct influence of either training or reward. Because a child loves and is nurtured by the parent (developmental identification) and in as much as the child views the parent as powerful and envies the parent's power (defensive identification), the child seeks to emulate the parent. Hence, the child's sex-role orientation evolves as the result of developmental and defensive identification.

The second of the theoretical approaches to sex-role development is the cognitive-developmental explication which can be linked to Kohlberg (1966). Kohlberg postulates that the development of sex-role

is the natural outcome of cognitive development, and sex-role emerges independent of the child's experiences. Kohlberg expands the tenets of Piaget (1954) and contends that the child cognitively organizes the environment along a masculine-feminine continuum. Kohlberg asserts that sex-role is a dynamic, developmental process which is invariant, sequential, and qualitatively different depending on the age and life stage of the individual. For Kohlberg, identification does not lead to sex-typing, instead, sex-typing leads to identification.

Social learning theory represents yet another approach to the explanation of sex-role development. Children learn to behave by imitating the behavior modeled by their parents and others with whom they come into contact (Bandura & Walters, 1963; Dollard & Miller, 1950; Emmerich, 1973; Johnson, 1963; Kagan, 1971; Lynn, 1969; Mischel, 1966, 1970). Sex-role identification occurs in response to reinforcement contingencies. Imitating the behavior of the same-sex parent is rewarded. Studies indicate that children identify with and attempt to emulate the same-sex parent (Burr, 1973; Etaugh, 1974; Kagan & Lemkin, 1960; Werts, 1968; Woods, 1972).

By the age of 3 years, children are developing appropriate sex-role behavior (Hartup & Zook, 1960), and Brown (1958) contends that the sex-role identity is clearly established by 5 years of age. Spencer (1967) asserts that 3 year old boys practice behaving like daddy, and 3 year old girls practice acting like mommy. Kagan and Moss (1962) suggest that early sex-role learning remains an enduring aspect of the personality. The sex-role identity that a child has between 6 and

10 years of age tends to be the same sex-role orientation which will be maintained as an adult.

Spencer (1967) explains that parents serve as adult models and communicate to their offspring what constitutes sex-appropriate behavior. While parents shape behavior of their children by actively rewarding or punishing behavior, Bandura (1967) contends that modeling is more potent than shaping. What a child observes in the personality and overt behavior of the parent may counteract what the parent has actively attempted to teach through shaping (Bandura, 1967).

While the psychoanalytic, the cognitive-developmental, and the social learning approaches to the study of sex-role fail independently to offer a holistic approach to the study of sex-role, a comprehensive, eclectic construct utilizing the strengths of each appears feasible. To be sure, the acquisition of sex-role is a developmental process encompassing many years, reflecting genetic, psychological, and social influences on the individual. This process is not merely spontaneous, but indications are that this process is cognitively mediated and limited by the cognitive capacity of the individual. For the purposes of the present investigation, the construction of the path models draws heavily upon social learning theory. Using social learning theory as the basis for model building was not done with the idea that social learning theory is the only viable construct which can be used to explain the phenomena involved in the vocational development among young girls. However, for purposes of management, social learning theory is the construct to which the discussion is limited. The

researcher makes this decision acknowledging that the ultimate explanation of vocational development rests with the integration of psychoanalytic, cognitive-developmental, and social learning tenets into a holistic approach to development.

Development of Path Models

Path models are pictorial mappings of the relationship among variables of interest. Path models are causal models involving the regression of independent variables on dependent variables. For each dependent variable in a model, the individual contribution of each independent variable is graphically displayed (Duncan, 1966; Heise, 1969; Land, 1969).

Figures 1 and 2 represent the path models which were developed for the purpose of this study. Theoretical tenets and previous empirical research findings were integrated in the development of these models. These models were developed in an attempt to provide an explanation of vocational orientation among daughters. In the present study, the construction of the path models draws heavily upon social learning theory. According to this theory, mothers serve as models and reinforce behaviors overtly and covertly which they view as appropriate for their daughters. Based on this belief, five recursive equations were developed to explain the phenomenon of vocational orientation of daughters. The mother's vocational orientation, the mother's feminine and masculine traits, the mother's perceived vocational orientation of her daughter, the mother's desired vocational orientation of her daughter, and the daughter's own sex-role orientation should be determinants of the

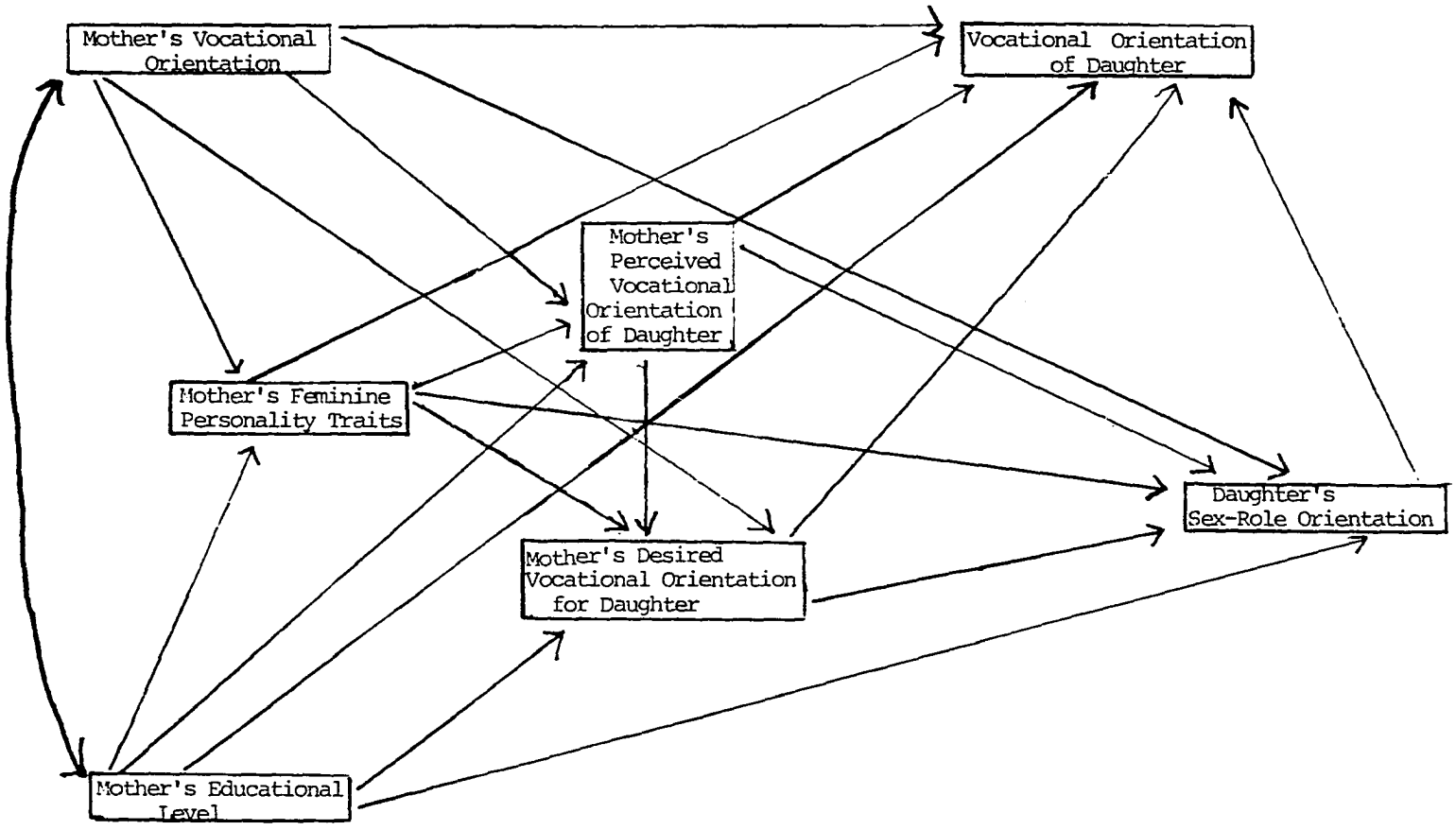

Figure 1. Path model 1

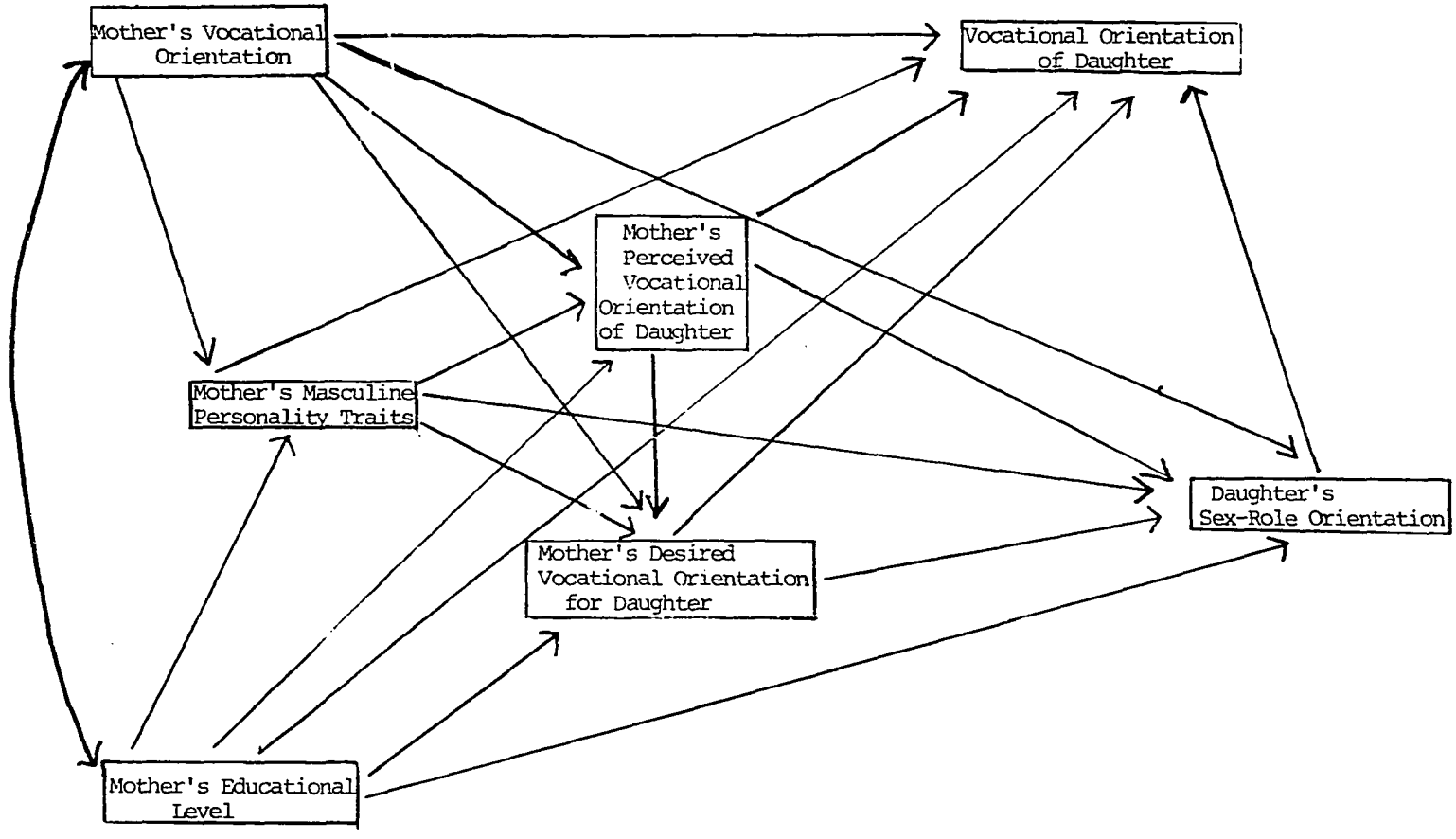

Figure 2. Path model 2

daughter's vocational orientation.

Using social learning theory as the basis for model building was not done with the idea that social learning theory is the only viable construct which can be used to explain the phenomena involved in the vocational development among young girls. However, for purposes of management, social learning theory is the construct to which the discussion is limited. The researcher makes this decision acknowledging that the ultimate explanation of vocational development rests with the integration of psychoanalytic, cognitive-developmental, and social learning tenets into a holistic approach to development.

Since research on vocational development has focused on men, little is known about vocational development among women (Tolbert, 1974). With more and more women choosing to pursue a career, research concerning career development in women is warranted. Since children allegedly identify with the like-sex parent, the present study is undertaken to explore the relationship of the sex-role orientation of mothers to the development of a vocational orientation in their daughters.

It is anticipated that the information gained through this study will:

1. contribute to the body of knowledge concerning vocational development among women,
2. provide a basis for guidance in career development among women,
3. offer some insight into curriculum planning for women,
4. increase awareness concerning the impact of environmental influences on yet another aspect of development, that of

vocational development among women, and

5. stimulate additional research and hypotheses testing regarding vocational development among women.

Statement of Purpose

The purposes of the present study are listed below.

1. Test the postulate that a child imitates the sex-role orientation of the like-sex parent.

2. Determine the degree of relationship between the sex-role orientation of the mother and the sex-role orientation of the daughter.

3. Explain the relationship between the mother's vocational orientation and her sex-role orientation.

4. Explore the relationship between the mother's education and her vocational orientation.

5. Investigate the relationship of the daughter's sex-role orientation and her vocational orientation.

6. Determine the accuracy with which one can predict the sex-role orientation and vocational orientation of the daughter when one knows the vocational orientation, the education, and sex-role orientation of the mother and the mother's perceived and desired vocational orientation for her daughter.

7. Test the two path models which were developed for the present study (Figure 1 and Figure 2).

Hypotheses

The specific null hypotheses to be tested are listed below.

1. No significant relationship exists between the mother's vocational orientation (MVO) and mother's education (ME).

2. No significant relationship exists between MVO and the mother's masculine personality traits (MBSRI).

3. No significant relationship exists between MVO and the mother's feminine personality traits (FBSRI).

4. No significant relationship exists between MVO and the mother's perceived vocational orientation of her daughter (MPVOD).

5. No significant relationship exists between MVO and the mother's desired vocational orientation for her daughter (MDVOD).

6. No significant relationship exists between MVO and the daughter's sex-role orientation (IT).

7. No significant relationship exists between MVO and the vocational orientation of the daughter (VOD).

8. No significant relationship exists between ME and MBSRI.

9. No significant relationship exists between ME and FBSRI.

10. No significant relationship exists between ME and MPVOD.

11. No significant relationship exists between ME and MDVOD.

12. No significant relationship exists between ME and IT.

13. No significant relationship exists between ME and VOD.

14. No significant relationship exists between MBSRI and FBSRI.

15. No significant relationship exists between MBSRI and MPVOD.

16. No significant relationship exists between MBSRI and MDVOD.

17. No significant relationship exists between MBSRI and IT.

18. No significant relationship exists between MBSRI and VOD.

19. No significant relationship exists between FBSRI and MPVOD.

20. No significant relationship exists between FBSRI and MDVOD.

21. No significant relationship exists between FBSRI and IT.

22. No significant relationship exists between FBSRI and VOD.

23. No significant relationship exists between MPVOD and MDVOD.

24. No significant relationship exists between MPVOD and IT.

25. No significant relationship exists between MPVOD and VOD.

26. No significant relationship exists between MDVOD and IT.

27. No significant relationship exists between MDVOD and VOD.

28. No significant relationship exists between IT and VOD.

29. VOD cannot be predicted from MVO, ME, MBSRI, MPVOD, MDVOD, and IT (Figure 1).

30. VOD cannot be predicted from MVO, ME, FBSRI, MPVOD, MDVOD, and IT (Figure 2).

Operational definitions

Sex-role orientation: the number of traits which an individual possesses which have traditionally been ascribed to behavior uniquely masculine or feminine.

Sex-typed: the degree to which one conforms to the behavior ascribed by the culture as sex-appropriate.

Traditionally feminine occupations: any occupation in which 66% or more of the work force are women.

Traditionally masculine occupations: any occupation in which less than 33% of the work force are women.

Vocational orientation: the degree to which an individual reflects a vocational interest which is traditionally masculine or feminine.

REVIEW OF LITERATURE

Parental Influences on Sex-Typing

The phenomenon of early sex-typing and behavior among children has been of interest to researchers for more than 30 years. Findings from research indicate that between the ages of 3 and 5, children of both sexes have learned to make socially expected sex-typed discriminations. Children display their knowledge of sex-appropriate behavior in play situations, in laboratory settings, and in response to direct inquiry (Brown, 1958; Hartup & Zook, 1960; Kagan & Moss, 1962; Schell & Silver, 1968).

Indications are that parents play a major role in the early sex-typing of their children. Parents serve as models for their children and differential reinforcement contingencies are alleged to exist for each sex. As a result of the conditioning, children adopt sex appropriate behavior. Recent research continues to provide evidence in support of these postulates concerning the influence of parents as models in their children's sex-typing. Atkinson and Endsley (1976) administered a questionnaire to 40 pairs of college educated, middle class, two-parent families. Half of the parents had sons and half of the parents had daughters. The children were between 4 and 6 years of age. The parents were asked to respond to 14 hypothetical situations involving parent-child interaction. Mothers and fathers responded separately as to their most probable response to each of the 14 constructed situations. Among the situations presented were a shy child meeting dinner guests in the home and a child crying when parents left him/her at school on the first

day. The data were analyzed by two-tailed *t* tests and analysis of variance. While the results indicated no significant sex-of-child and sex-of-parent interactions, both mothers and fathers encouraged and rated femininity and sex-typed behavior as important in girls ($p < .01$).

Lynn (1976) and Biller (1971) present evidence that fathers play an essential role in the sex-typing of their daughters. However, much of the evidence provided by researchers indicates that the like-sex parent is more potent in sex-typing of children. One such study was reported by Mussen and Rutherford (1963) who studied 57 female and 46 male first graders, all of whom were middle class. They administered the It Scale for Children to all subjects. Each child also was tested individually using structured doll play in which the child completed 9 stories using a doll identical to the subject's sex. Parents of the subjects were interviewed and the personality of the parents was assessed using the California Personality Inventory, but some of the parents did not complete all tasks required for the study. From those subjects who completed all necessary tasks, two-tailed *t* tests were used to analyze the data. The researchers concluded that girls who were appropriately sex-typed tended to have warm, rewarding, and affectionate mothers ($p < .05$). Other researchers have identified the mother's own sex-role behavior as an important factor in the development of sex-typed behavior in their daughters (Biller, 1971; Fitzgerald & Roberts, 1966; Hartup, 1962; Heilbrun, 1965; Kagan & Lemkin, 1960).

Research involving college women continues to provide evidence supporting the mother as a crucial factor in sex-typing of daughters.

Vanfossen (1977) reported a study of 334 college women who were surveyed by questionnaire concerning family dominance patterns, family background characteristics, educational aspirations, and attitudes toward women. Her findings indicated that the sex-role patterns within the girl's family have a crucial influence on the daughter's sex-role orientation ($p < .05$).

Additional research by Margolin and Patterson (1975) investigated through home observations the interaction between children and their parents. Fourteen families participated, and all families had a son and a daughter between 5 and 12 years of age. Using analysis of variance, the data revealed that boys received more positive responses from both parents ($p < .05$) and that a statistically significant interaction between sex of parent and sex of child existed ($p < .05$). Also supporting this notion is research conducted by Dixit and Mathur (1973). These investigators studied 100 female students with a mean age of 17 years. The M-F scale of the MMPI along with a scale of loving and punishing behavior (a sub-scale of the parent-child relationship scale) were administered to all subjects in groups 30 to 40. Using two-tailed *t* tests to analyze the data, Dixit and Mathur concluded that the identification of women with the feminine sex-role is promoted by positive attitudes on the part of the mother. Moreover, negative maternal and positive paternal attitudes were associated with women who had a masculine sex-role orientation. Women who had an early warm relationship with their mothers were more likely to identify with their mothers and become appropriately sex-typed.

Biller and Barry (1971) studied 104 male college freshmen and evaluated their sex-role orientation using the Franck Drawing Completion Test and the Grough Femininity Scale. In addition, Heilbrun's Identification Scale was used to yield a measure of the relationship of the subject's description of himself and his perception of his parents. The subjects who had a traditional male sex-role orientation perceived themselves as more similar to their fathers than did the other subjects with relatively feminine sex-role orientations ($p < .025$). Masculine oriented subjects who perceived themselves as masculine also saw themselves more similar to their fathers than did other subjects in the study ($p < .05$).

Minuchin (1965) conducted a study involving 105 fourth graders, 57 of whom were boys and 48 of whom were girls. Each subject was interviewed by researchers on 6 occasions during which a general interview, intelligence tests, problem solving tasks, and projective techniques were required of the subjects. Those girls who lived in a traditional home had a more traditional sex-typed orientation than girls who lived in a more nontraditional home. These findings were positively correlated ($r = .26$). Boys from nontraditional homes were less aggressive than boys from traditional homes ($p < .05$). Girls from nontraditional homes were significantly less sex-typed than girls or boys from traditional families ($p < .05$).

A more recent study by Bem and Lenney (1976) involved a sample of 72 students, 24 were sex-typed, 24 were sex-reversed (displayed behavior typically assigned to the opposite sex), and 24 were androgenous. These

classifications were determined by statistical differences in Student's t ratio ($p < .05$) on the Bem Sex-Role Inventory (BSRI). Each subject also was photographed during an exercise in which the individual was asked to choose between a pair of sex-typed activities which the subject would prefer to perform for pay. Using 2x2x3 factorial design, the researchers found no significant differences between those who were sex-reversed and those who were androgenous. However, statistically significant differences ($p < .001$) were reported between those who were sex-typed and the other two groups. When those who were sex-typed were asked to perform a series of activities which ranged in the degree to which each was sex-typed, those subjects who belonged to the sex-typed group chose the most traditionally sex-appropriate behavior.

Kelly and Worell (1976) reported research in which parental behaviors as they relate to the sex-role orientation of male and female college students were investigated. The subjects were 181 men and 300 women. A measure of psychological androgyny, the Berjins-Wellins ANDRO Scale, and the Parent Behavior Form were completed by the subjects. The data were subjected to analysis of variance, and the results indicate that women who were masculine in sex-role orientation tended to have parents who encouraged, stimulated, and rewarded achievement behavior, competence, and self-reliance. The likelihood of androgyny or cross-sex behavior increases when the same sex parent modeled cross-sex behavior. These findings were significant ($p < .01$).

Therefore, from the research presented on the parental influence on sex-typing, the following conclusions seem appropriate.

1. Children are sex-typed in the preschool years before the age of 5 years.
2. Evidence indicates that parents are the more potent social models in the sex-typing of children.
3. Parents seem to respond differently to their offspring based on the child's sex.
4. Like-sex parent seems to have the greatest influence on the sex-typing of the like-sex child.
5. While fathers do play a major role in sex-typing of their daughters, mothers are the most crucial models in determining the nontraditional or traditional sex-role orientation of daughters.

Vocational Orientation Among Women

Vocational development and sex-typing

The number of mothers who work outside the home has been increasing since World War II (Hoffman & Nye, 1974). In the past, girls were socialized predominantly for the roles they would assume as wife and mother. For this reason, little emphasis has been placed on research concerning the vocational development among young girls. Werts (1968) has presented evidence that the father is a major influence in his son's career choice. He drew this conclusion from a study involving a son's probable future occupation and his father's usual occupation. The responses were classified into three broad occupational categories, low socio-economic status, semi-professional, and professional. Using

the Chi Square Test of Independence to analyze the data, Werts concluded that the father's occupation is a significant factor which influences his son's subsequent career choice ($p < .05$). If fathers influence sons in terms of career choice, perhaps then mothers have a similar influence on the career choice of daughters.

Hartley (1960) interviewed 47 boys and 110 girls individually concerning appropriate work roles and division of labor by sex. All subjects were between 5 and 11 years of age. Data from the study indicate that having a career is not part of a girl's sex-typing but that nurturing children is important to the feminine identity ($p < .05$).

Looft (1971a) studied 33 boys and 33 girls between 6 and 8 years of age. Each child was interviewed individually and asked "What would you like to be when you grow up?" The boys mentioned 18 different occupations, all of which were traditional male occupations. On the other hand, the girls only named 8 occupations, and 25 of the 33 girls named either nurse or teacher as their first occupational choice. Boys also changed their initial response more frequently than girls in response to the question "What do you think you really will do when you grow up?" Using the results from Chi Square analysis, Looft concluded that vocational aspirations of young boys are significantly different from the vocational aspirations of their female cohorts ($p < .05$).

In another study by Looft (1971b), vocational aspirations among second-grade girls were investigated. The sample consisted of 41 second-grade girls. Each was asked individually about what she would like to be when she grew up. All of the vocations named by the girls

were sex stereotyped occupations. Looft concluded that girls learn early in life what vocations are culturally defined as sex appropriate.

Additional support of Looft's findings can be found in earlier studies by Kohlberg (1966), Mischel (1970), O'Hara (1962), and Tyler (1955). More recent studies also continue to find early sex differences in the range of career choice. Siegel (1973) reported a study involving an open-ended questionnaire which was administered to 61 second-graders. Frequencies of job choices by sex were recorded and 20 of the 29 girls selected teacher or nurse as their first choice for their future vocation. This study confirms earlier findings that girls limit the range of appropriate vocational aspirations early in the developmental process.

Beuf (1974) conducted a study of 63 middle class children between 3 and 6 years of age. Boys indicated preference for traditional male occupations, such as police officer, and girls tended to indicate preference for traditional female occupations, such as nurse. The researcher concluded that children learn social expectations and limitations of career by sex before they enter public school.

Vondracek and Kirchner (1974) investigated the vocational aspirations of 282 children (143 boys, 139 girls) between the ages of 3 and 6 years. These children were enrolled in 51 Pennsylvania day care centers. Each child participated in individually administered 45 minute assessment interviews. The child was asked open-ended questions about the vocation he/she would prefer as an adult. The Chi Test was employed to assess differences by race, age, and sex in vocational aspiration of

the subjects. Each of these produced significant findings ($p < .05$, $p < .001$, $p < .0001$, respectively). Hence, the findings indicated that age is a factor shaping the range of vocational interests expressed. The results point to indications that vocational decision-making is indeed a developmental process, and that sex and race limit the ability of the individual to project oneself into the vocational future. Girls are more limited than boys and Blacks are more limited than Whites. While boys and girls of the same age were found to exhibit no differences in the stage of vocational development, girls were found to undergo vocational foreclosure before boys. This latter conclusion was the result of plotting the range of vocational aspiration of girls.

Confirming the findings reported by Looft (1971a, 1971b), Beuf (1974), and Vondracek and Kirchner (1974) is research by Hewitt (1975). She conducted a study involving 128 children, 64 girls and 64 boys. All children were between the ages of 6 and 8 years. Each subject was interviewed individually and questioned about what job he or she would like to do as an adult. From the results, reported in frequencies, Hewitt concluded that the girl's range of occupational choice is internalized early and that sex-role expectations for appropriate vocations as adults are restricted at a young age among girls.

Further supporting the early sex differences in vocational aspirations is a study of 79 kindergarten children (48 girls, 31 boys) reported by Konle and Piliavin (1976). Significant differences were found between sexes in occupational aspirations. Only 10% of the boys chose relationship-oriented occupations, such as nursing, while 31% of the

girls chose a relationship-oriented occupation.

In spite of the fact that some trends toward the blending of sex-roles are reported, no evidence exists which suggests that children are seeing traditionally sex-typed vocations as merging. In fact, studies by Tremaine and Schau (1979) and Frost and Diamond (1979) confirm the findings reported by earlier studies. Tremaine and Schau (1979) investigated sex-typed vocational interests among 120 children in four age groups, preschool, late preschool, 2nd grade, and 4th grade. In an individual interview, each subject was asked whether or not a certain occupation was appropriate for men, women, or both. The data were analyzed by analysis of variance and the researchers concluded that both girls and boys are sex-typed as to the appropriate range of occupations. The older the child, the more sex-typed the occupational choice ($p < .05$).

While the research of Tremaine and Schau (1979) involved children from preschool to 4th grade, the research by Frost and Diamond (1979) surveyed through paper and pencil questionnaires 666 older children 314 girls and 351 boys. All children in the study were in the 4th, 5th, and 6th grades. The children in the study were asked to assess whether or not an adult job could be done by men, women, or both. In addition, the children were asked to indicate whether or not household jobs could be done by girls, boys, or both. They were also given one open-ended question: "What would you like to do when you grow up?" Using the Chi Square Test to analyze the data, Frost and Diamond concluded that both sexes identified the traditional feminine occupations

as female. However, girls were more likely than boys to view cross-sex jobs as appropriate for either sex. More girls than boys indicated an interest in a cross-sex career ($p < .05$). However, when the girls indicated their own vocational interest, only 6.3% chose a nontraditional occupation. Like the other studies suggest, any real movement away from the sex-role stereotype of occupations is slow.

Effect of mother's vocational orientation on daughters

Kraus (1964) utilized a questionnaire to assess the educational plans of 706 high school seniors. He controlled variance due to social class and reported the data in percentages. Kraus found that 53% of the students whose mothers performed nonmanual work planned to go to college, while only 29% of those whose mothers performed manual work planned to go to college. In addition, if the mother did not work outside the home, one in three planned to go to college. In homes where the mother did work, one in two planned to attend college. These findings seem to support the idea that the mother's role in the family is a dominant factor in a child's plans for educational achievement. Mason, Czajka, and Arber (1976) studied a total of 1063 women. These women were involved in one of five surveys taken between 1964 and 1974. The surveys were used to assess changes in sex-role attitudes among women in the United States. The researchers concluded that those women who are educated and employed tend to be nontraditional in beliefs concerning sex-role. These findings were statistically significant ($p < .05$) and congruent with the findings of Douvan and Adelson (1966) and results reported by Kraus (1964) and Mason et al. (1976).

Vogel et al. (1970) studied the sex-role perceptions of 120 men and women college students. The subjects reported their mother's usual occupation and completed a sex-stereotype questionnaire. Data were analyzed using t tests. Statistically significant differences were reported in children of working mothers ($p < .05$). Subjects whose mothers were nontraditional in sex-role report fewer male/female sex differences. Maternal employment exerts greater influence on the sex-role perceptions of daughters than on the sex-role perceptions of sons ($p < .05$). Other research supports these findings (Barnett, 1971; Elder, 1963; Simpson, 1962).

In addition to studies previously cited, Almquist and Angrist (1971) studied 110 college women using a questionnaire which investigated adult role conceptions, occupational plans, work experiences, classwork, grades, school activities, dating, social life, and marriage plans. The Chi Square Test was employed to assess the data. Almquist and Angrist concluded that the career oriented college women are more likely to be daughters of career women than are their cohorts, the other noncareer oriented college women ($p < .001$).

More recent research concerning the sex-typing of college women continues to lend support to the importance of the parental role model as a major determinant of vocational aspirations. Findings reported by Tangri (1972) and Ginzberg (1971) concur. In addition, Stein (1973) provides evidence from a study involving 43 undergraduate women that the mother's employment history is positively and significantly correlated to daughter's masculine personality characteristics, the

daughter's intent to pursue graduate work, and the daughter's plans for a career after marriage. A negative correlation was reported between the daughter's feminine characteristics and her mother's work history. All data in this study were collected by means of a questionnaire.

Early research by Hartley (1960) suggests that daughters of working mothers view employment as an adult outside the home as something desirable for themselves ($p < .05$). More recent research reported by Miller (1975) involved 34 girls attending kindergarten, 17 with working mothers and 17 with nonworking mothers. The two groups were matched for ordinal position and number of siblings. Both groups were made up of middle class girls. All girls were members of two-parent families and each girl was individually interviewed and asked questions about her family. In addition, all subjects chose among a variety of activities from which sex-typing was inferred. Miller concluded that daughters of working mothers are less sex-role stereotyped than daughters of nonworking mothers ($p < .01$). Marantz and Mansfield (1977) present evidence from a study of 98 girls comprising three groups, 5-6 years, 7-8 years, and 9-11 years of age. Forty-six of the girls had nonworking mothers and 52 of the girls had working mothers. Using multiple regression analysis, maternal employment explains 20% of the variance of sex-role stereotyping, and girls from homes of nonworking mothers were significantly more sex-stereotyped than girls of working mothers ($p < .025$). These results confirm the earlier findings of researchers that daughters of working mothers have fewer sex-role stereotypes than daughters of nonworking mothers.

From the research presented which crosses all ages from preschool to college-age adults, the findings are congruent and indicate that differences exist in sex-typing between daughters of traditionally oriented mothers and daughters of nontraditionally oriented mothers. Therefore, the following conclusions can be drawn concerning the vocational orientation of women.

1. More and more women are becoming employed outside the home.
2. The number of women in traditional masculine occupations is increasing.
3. Careers continue to be sex-typed by all age groups and by both sexes.
4. Girls view cross-sex careers as appropriate, yet, when asked to choose a career for themselves, they tend to choose traditional sex-typed careers.

While some research presented seems to link sex-role orientation of the mother with that of her daughter, and other research supports the influence of the mother's vocational orientation on her daughter's vocational orientation, what is needed is additional research on a predictive model which integrates the concepts of sex-role orientation and vocational orientation. Such is the undertaking of the present research.

METHODOLOGY

The purpose of the present research is to investigate the relationship of the sex-role orientation and vocational orientation of mothers and daughters. This research focuses on the extent and direction of the relationship of mother's vocational orientation and her daughter's expressed vocational interests. In addition, the relationship of the mother's perceived vocational orientation and the mother's desired vocational orientation for her daughter to the daughter's actual vocational orientation are assessed. To evaluate these relationships, two path models were developed and tested (Figures 1 & 2).

Subjects

The subjects in the study were 101 mother-daughter pairs. All daughters attended either third or fourth grade. The age range of the daughters was 8.0 to 10.0 years with a mean age of 8.6 years. The age of the mothers was 25.0 to 54.0 years with a mean age of 35.6 years. The mother's education ranged from 9 to 22 years of formal education and the mean years of formal education by mothers was 16 years. Hence, most of the mothers were college educated. All subjects were judged to be middle class.

Instrumentation

The Bem Sex-Role Inventory (BSRI)

The Bem Sex-Role Inventory consists of 60 adjectives describing attributes which the subject ranks indicating the extent to which each

attribute is perceived as part of one's personality. Of the 60 adjectives, 20 describe attributes traditionally ascribed to men, 20 describe characteristics traditionally associated with women, 10 describe socially desirable attributes, and 10 describe socially negative attributes (Appendix A).

The BSRI was designed for use with adults and measures the individual's degree of masculinity, femininity, and androgyny. The instrument was originally standardized on a group of 444 men and 279 women Stanford University undergraduates. The internal consistency reliability was .86 for men and .80 for women. The test-retest reliability was .90 for the masculinity scale, .90 for the femininity scale, and .93 for the social desirability scale (Bem, 1974). Studies by Hogan (1977) and Rowland (1977) yield similar coefficients of reliability. Gaudreau (1977) factor analyzed the BSRI using a sample of 325 adult men and women (253 industrial workers, 36 police officers, and 36 unemployed wives). Gaudreau's factor loadings and intercorrelations matrix support Bem's assumption that masculinity and femininity are independent traits and not bipolar as conceptualized by some researchers. Research reported by Waters et al. (1977) and Whetton and Swindells (1977) also support Bem's construct.

Not all research has supported the use of Bem to measure androgyny. Spence et al. (1975) and Strahan (1975) have identified problems in regard to Bem's scoring procedures. They point out that the use of the $\underline{t}$ score to determine androgyny masks important distinctions between subjects. An individual who scores high on the masculine and high on

the feminine dimensions would not be distinguished from the individual who scores low on both the masculine and feminine dimensions.

From the research presented concerning the BSRI, the following conclusions can be drawn.

1. The Bem Sex-Role Inventory is a reliable instrument which has been widely used by researchers to assess sex-role orientation among adults.
2. Research utilizing Factor Analysis supports Bem's construct for the BSRI and indications are that masculinity and femininity are separate dimensions.
3. Bem's original scoring procedures are faulty (Spence et al., 1975).

Scoring the Bem Sex-Role Inventory. The Bem Sex-Role Inventory is scored in three parts--the masculine scale, the feminine scale, and the social desirability scale.

The subject rates each adjective on a continuum from 1 (never or almost never) to 7 (always or almost always true) as to the extent the subject perceives the adjective as a part of the subject's personality. The adjectives making up the masculine scale and feminine scale are listed on the following page. The remaining 20 adjectives on the inventory make up the social desirability scale. The scoring of the three scales is identical. One sums the ratings of each adjective on each scale such that the range of scores on each scale is 20 to 140.

Masculine Adjectives	Feminine Adjectives
self-reliant	yielding
defends own beliefs	cheerful
independent	shy
athletic	affectionate
makes decisions easily	flatterable
self-sufficient	loyal
dominant	feminine
masculine	sympathetic
assertive	sensitive to needs of others
strong	compassionate
forceful	eager to soothe hurt feelings
analytical	soft spoken
has leadership	warm
willing to take risks	tender
willing to take a stand	gullible
aggressive	childlike
acts as a leader	does not use harsh language
individualistic	loves children
competitive	gentle
ambitious	understanding

It Scale for Children

The It Scale for Children was developed and reported by D. G. Brown (1956) as a projective test to measure sex-typing among children (Appendix B). The instrument consists of 36 pictures depicting various objects, figures, and activities associated with traditional masculine and feminine roles. The subject is asked to make choices for the "It", a neutral figure drawing of a child which hypothetically is neither obviously masculine nor feminine. The assumption is that the child will project his or her sex-role typing on the "It", thus giving a measure of sex-role typing. The instrument was originally developed utilizing a sample of children, 78 of whom were boys and 68 of whom were girls. The age range of the sample was 5 years 4 months to 6 years 4 months. The test-retest reliability was .69 for boys and .82 for

girls. While there was no significant difference in sex-typing by social class, Brown (1956) found that the dichotomous sex-roles were significant. By the age of 5 or 6, there was a distinct split between the sexes indicating that the phenomenon of sex-typing was real and could be measured reliably.

After criticism of the use of the "It" figure by several researchers (Hartup & Zook, 1960; Lefkowitz, 1961; McCandless, 1961), Brown (1962) acknowledges the problems related to the use of the "It" figure. Brown (1962) conceded that school-age children, regardless of sex, tend to see the "It" figure as masculine and thus distort findings in regard to the number of girls whose sex-typing is masculine.

Subsequent research by Lansky and McKay (1963) and Hall and Keith (1964) supports the concerns raised earlier by Brown (1962), Hartup and Zook (1960), Lefkowitz (1961), and McCandless (1961). Based on the evidence presented by these researchers, the "It" figure should not be used in the administration of the It Scale for Children, and one of the alternatives should be implemented.

While the It Scale for Children was initially designed to be administered as an individual test, it also has been administered to groups of children. Duryea (1967) administered the It Scale for Children to 55 first-grade children, 10 boys and 16 girls were given the testing in a group and 19 boys and 10 girls were given the test individually. Duryea reported no significant differences between the results of the two methods and concluded that, when desirable, the It Scale for Children can be administered to groups of children.

In another study of the It Scale (Doll et al., 1971), the effect of the sex of the examiner on the responses of the subjects was investigated. The sample of this study included 120 lower class school children between the ages of 6 and 12 years; 120 of whom were Black and 120 were White. The results indicated that the sex of the examiner has no effect on the subjects regardless of the subject's age or race. Furthermore, the It Scale is a reliable instrument in determining the sex-role of children across the age range of 6 to 12 years and across ethnic groups (Doll et al., 1971).

Based on the present discussion concerning the It Scale for Children, the following conclusions can be drawn.

1. The It Scale for Children is a reliable instrument which has been widely used to assess sex-role preference among children.
2. In administering the It Scale, omitting the use of "It" figure is desirable since evidence has been presented which indicates that "It" is interpreted as a masculine figure and as such distorts the subject's projective responses.
3. The It Scale for Children can be administered either individually or in groups without violating the sensitivity of the instrument.
4. The It Scale for Children is appropriate for use among children 6 to 12 years and can be administered with confidence to all children regardless of ethnic group.
5. The sex of the examiner has no significant effect on the responses of the subjects to the It Scale.

Scoring of Brown's It Scale for Children. In the first set of pictures, necklace, doll, purse, and high chair represent feminine toy objects and the subject receives a score of zero for choosing each of these. The subject receives a score of 1 for each masculine toy chosen in set 1 (tractor, truck, train engine, and gun). In the second set of pictures, the subject receives a score of zero for each feminine choice and a score of 1 for each masculine choice. The feminine items are cradles, doll buggy, dishes, and baby bath. The masculine items are soldiers, racer, pocket knife, and earth mover.

Following the pictures of toy items is the section of eight paired pictures.

Feminine Preference	Masculine Preference
Indian princess	Indian chief
Dress	Trousers and shirt
Sewing materials	Airplane parts
Cosmetic articles	Shaving articles
Household objects	Mechanical tools
Women's shoes	Men's shoes
Girls playing	Boys playing
Baking articles	Building tools

For each feminine preference indicated, the child receives a score of zero. For each masculine preference indicated, the child receives a score of 1.

Following the eight paired picture section is the four child-figure set. This set consists of a girl, a boyish girl, a girlish boy, and a boy. The subject receives a score of zero for choosing the girl, a score of 1 for choosing the boyish girl, a score of 2 for choosing the

girlish boy, and a score of 3 for choosing the boy. The subject of either sex receives a total score on the It Scale by summing the subject's responses for each image selected.

Measurement of vocational orientation

Three instruments, the Mother's Perceived Vocational Orientation of Daughter (MPVOD), the Mother's Desired Vocational Orientation for Daughter (MDVOD), and Vocational Orientation of Daughter (VOD) were developed for use in the present study (Appendix C). Each instrument consists of the same 14 pairs of occupations which are randomly ordered. Each pair is of similar prestige level based on the work of Hodge et al. (1964), Powers and Holmberg (1978), and Reiss et al. (1971). Each pair of occupations contains a traditionally masculine and a traditionally feminine occupation. The occupations included in the instruments had to meet three basic criteria.

1. A feminine occupation was one in which 66% or more of the work force engaged in that occupation are women. A masculine occupation is one in which less than 33% of the total work force engaged in that occupation are women. The statistics reported by the U.S. Bureau of the Census (1978) were used to determine the sex distribution of the various occupations.
2. The occupations to be paired must have a similar prestige level.
3. As a result of their own life experience, children in third and fourth grades would have come in contact with persons engaged in the occupations included in the instrument.

The MPVOD was designed to reflect the mothers' perception of her daughter's vocational orientation. The MDVOD was designed to tap the mother's desired vocational orientation for her daughter. The companion inventory to the MPVOD and the MDVOD, the VOD was developed to be administered by the researcher to each daughter participating in the study. While the content of the three inventories is identical, the directions for each differ (Appendix C). The VOD yields a measure of the current vocational orientation of the daughter and indicates on a continuum the extent to which a daughter's current vocational interests are traditionally masculine or feminine.

The following are the occupational pairs used in the vocational inventories.

Traditionally Masculine Occupations	Traditionally Feminine Occupations
Pilot	Nurse
Mail Carrier	Bank Teller
Truck Driver	Cashier
House Painter	Clothesmaker
Milk Delivery Person	Receptionist
Veterinarian	Teacher
Construction Worker	Secretary
Pharmacist	Librarian
Stock Clerk	Maid
Fire Fighter	Flight Attendant
Car Mechanic	Beautician
Telephone Repairperson	Telephone Operator
Police Officer	X-Ray Technician
Gas Station Attendant	Waitress

Scoring vocational orientation. The MPVOD, MDVOD, and the VOD are scored according to the same protocol. Each traditionally feminine

occupation selected by respondents is scored zero. Each traditionally masculine occupation chosen by the subject is scored 1. For each instrument, a scale is determined by summing the subject's score for each of the 14 pairs of occupations. The range of possible scores is from zero to 14.

The mother's vocational orientation is measured as masculine or feminine. For jobs in which 66% or more of the work force are women, the vocational orientation of the mother is scored 1. For occupations in which 33%-66% of the work force are women, the vocational orientation of the mother is scored 2. For jobs in which 33% or less of the work force are women, the vocational orientation of the mother is scored 3.

Procedure

The assistant superintendent of the Ames Community School System was contacted and an appointment was made to discuss the proposed project. Approval was granted to use pupils from the third and fourth grades in the Ames Community Schools. A list of names, addresses, and telephone numbers was provided the researcher by the assistant superintendent.

The questionnaire (including background data), the Bem, the MPVOD, and the MDVOD, with separate cover letters to the mother (Appendix D) from the assistant superintendent and the researcher, were mailed to the mothers of every potential subject. A stamped self-addressed envelope was provided for the return of the questionnaire. A week after the initial mailing, a post card was sent asking each potential participant to complete and return the questionnaire which had been mailed

the previous week. After two weeks, those who had not returned the questionnaire were contacted by telephone. At that time a determination was made as to their participation in the study. From a potential subject pool of 130, 101 mother-daughter pairs agreed to participate in the study.

Before any of the daughter subjects were interviewed, a pilot study was conducted to determine style, technique, and the clarity of directions to be used in administration. No daughter was contacted until the mother had agreed to participate and indicated her willingness for her daughter to participate.

Each of the schools was contacted to set up a time after school in which a school room could be used by the researcher for the daughters to complete their portion of the study. The mothers who had agreed to participate were then contacted by telephone to determine a time which was convenient for the daughter to complete her portion of the research.

The Vocational Orientation of the Daughter and the It Scale for Children were administered to groups of children. Both instruments were presented in a paper-pencil format. The researcher read the questionnaire to the group and waited for the daughters to complete each page before moving on to the next page (Appendix C). The total time needed for the child to complete her portion of the research was 20 minutes.

Statistical Analysis

Each mother-daughter pair was assigned an identification number and all identifying information was destroyed. Data of the mother-

daughter pairs were coded and punched onto cards for subsequent computer analyses.

The Statistical Package for the Social Sciences (SPSS) was the program utilized to examine the data. The variables were:

1. mother's vocational orientation (from respondent's reported occupation, see Appendix C),
2. mother's educational level (from respondent's reported education, see Appendix C),
3. mother's masculine personality traits (Bem Sex-Role Inventory),
4. mother's feminine personality traits (Bem Sex-Role Inventory),
5. mother's perceived vocational orientation of her daughter (MPVOD),
6. mother's desired vocational orientation for her daughter (MDVOD),
7. daughter's sex-role orientation (It Scale), and
8. vocational orientation of the daughter (VOD).

The Pearson-Product Moment Coefficient of Correlation was computed on all variables. Least squares approach to multiple regression analysis was used to test the two path models.

RESULTS

The findings from the present study are presented in two sections. The first section is a discussion of possible bivariate relationships among the variables. The second section is a discussion of the two path models. All statistics involve a sample of 101 mother-daughter pairs.

Mother's Vocational Orientation

Seven null hypotheses were tested which involved the relationship of the mother's vocational orientation to the other variables. For clarity, the number assigned to each null hypothesis coincides with the number originally assigned in the introduction.

Based on the criteria established for statistical significance, three of these seven hypotheses were rejected:

1. No significant relationship exists between the mother's vocational orientation and the mother's educational level ($r = .47$; $p < .01$).
4. No significant relationship exists between the mother's vocational orientation and the mother's perceived vocational orientation of her daughter ($r = .20$; $p < .05$).
7. No significant relationship exists between the mother's vocational orientation and the vocational orientation of the daughter ($r = .20$; $p < .05$).

The following hypotheses failed to be rejected:

2. No significant relationship exists between the mother's vocational orientation and the mother's masculine personality traits.

3. No significant relationship exists between the mother's vocational orientation and the mother's feminine personality traits.
5. No significant relationship exists between the mother's vocational orientation and the mother's desired vocational orientation for her daughter.
6. No significant relationship exists between the mother's vocational orientation and the daughter's sex-role orientation.

Therefore, the statistical analyses of the data indicate that a positive and significant relationship exists between the mother's vocational orientation and the mother's educational level, the mother's perceived orientation of her daughter, and the vocational orientation of the daughter.

Mother's Educational Level

In addition to finding that the mother's educational level is positively and significantly related to the mother's vocational orientation, six other null hypotheses were tested and the following were rejected.

8. No significant relationship exists between the mother's educational level and the mother's masculine personality traits ($r = .42$; $p < .01$).
10. No significant relationship exists between the mother's educational level and the mother's perceived vocational orientation of her daughter ($r = .21$; $p < .05$).
11. No significant relationship exists between the mother's educational level and the mother's desired vocational orientation

for her daughter ($r = .28$; $p < .01$).

13. No significant relationship exists between the mother's educational level and the vocational orientation of her daughter ($r = .32$; $p < .01$).

The null hypotheses stating a relationship between mother's educational level and mother's feminine personality traits (9) and daughter's sex-role orientation (12) failed to be rejected.

Therefore, the statistical analyses of the data suggest that a positive and significant relationship exists between the mother's educational level and the mother's masculine personality traits, the mother's perceived vocational orientation of her daughter, the mother's desired vocational orientation for her daughter, and the vocational orientation of her daughter.

Mother's Masculine Personality Traits

Aside from the positive and significant relationship found between the mother's masculine personality traits and the mother's educational level, five other relationships were tested.

14. No significant relationship exists between the mother's masculine personality traits and the mother's feminine personality traits.
15. No significant relationship exists between the mother's masculine personality traits and the mother's perceived vocational orientation of her daughter.
16. No significant relationship exists between the mother's masculine personality traits and the mother's desired

vocational orientation for her daughter.

17. No significant relationship exists between the mother's masculine personality traits and the daughter's sex-role orientation.

18. No significant relationship exists between the mother's masculine personality traits and the vocational orientation of the daughter.

Only one of the null hypotheses was rejected because the other relationship did not reach statistical significance. Therefore, null hypothesis 15--no significant relationship exists between the mother's masculine personality traits and the mother's perceived vocational orientation of her daughter ($r = .21$; $p < .05$)--was rejected. Clearly, a positive and significant relationship exists between the mother's masculine personality traits and the mother's perceived vocational orientation of her daughter.

Mother's Feminine Personality Traits

None of the relationships involving the mother's feminine personality traits were significant. Therefore, none of the null hypotheses (19, 20, 21, 22) were rejected.

Mother's Perceived Vocational Orientation of Her Daughter

As previously mentioned in this chapter, the mother's perceived vocational orientation of her daughter was found to be positively and significantly related to the mother's vocational orientation, the mother's educational level, and the mother's masculine personality

traits. In addition to the testing of these relationships, three other null hypotheses involving the mother's perceived vocational orientation were tested. Two of these three hypotheses were significant.

23. No significant relationship exists between the mother's perceived vocational orientation of her daughter and the mother's desired vocational orientation for her daughter ($r = .52$; $p < .01$).

25. No significant relationship exists between the mother's perceived vocational orientation of her daughter and the vocational orientation of the daughter ($r = .55$; $p < .01$).

The other hypothesis (24)--no significant relationship exists between the mother's perceived vocational orientation of her daughter and her daughter's sex-role orientation--failed to be rejected.

Mother's Desired Vocational Orientation for Her Daughter

In addition to the significant relationship found between mother's desired vocational orientation for her daughter and mother's educational level, and mother's perceived vocational orientation of her daughter, two other null hypotheses were tested. Of these two null hypotheses, only one (27)--no significant relationship exists between the mother's desired vocational orientation for her daughter and the vocational orientation of the daughter ($r = .43$; $p < .01$)--was rejected. The other hypothesis (26)--no significant relationship exists between the mother's desired vocational orientation for her daughter and the sex-role orientation of the daughter--failed to be rejected.

Sex-Role Orientation of the Daughter

One null hypothesis (28), which was tested involving the sex-role orientation of the daughter, was rejected. No other relationship involving the daughter's sex-role orientation reached statistical significance. Therefore, the null hypothesis stating no significant relationship exists between the sex-role orientation of the daughter and the vocational orientation of the daughter was rejected ($r = .26$; $p < .01$).

Summary of Bivariate Relationships

Table 1 presents a summary of all bivariate relationships. A correlation coefficient of .20 is needed for statistical significance at the .05 level and a correlation coefficient of .25 is necessary for statistical significance at the .01 level. Based on these criteria, four relationships were statistically significant at the .05 level.

4. The mother's vocational orientation was positively and significantly related to mother's perceived vocational orientation of her daughter.
7. The mother's vocational orientation was positively and significantly related to the vocational orientation of her daughter.
10. The mother's educational level was positively and significantly related to the mother's perceived vocational orientation of her daughter.
15. The mother's masculine personality traits were positively and significantly related to the mother's perceived vocational orientation of her daughter.

Table 1
Means, standard deviations, and Pearson product-moment correlations of all variables

	MVO	ME	MBSR	BSR	MPVOD	MDVOD	IT	VOD
Mother's vocational orientation (MVO)	1.00							
Mother's educational level (ME)	.47	1.00						
Mother's masculine personality traits (MBSR)	.14	.42	1.00					
Mother's feminine personality traits (FBSR)	-.13	-.10	.19	1.00				
Mother's perceived vocational orientation of daughter (MPVOD)	.20	.21	.21	-.08	1.00			
Mother's desired vocational orientation for daughter (MDVOD)	.15	.28	.18	-.14	.52	1.00		
Daughter's sex-role orientation (IT)	.05	.07	-.00	-.13	.19	.08	1.00	
Vocational orientation of daughter (VOD)	.21	.32	.09	-.05	.55	.43	.26	1.00
Mean	1.30	15.86	94.17	101.94	2.98	3.51	9.05	3.74
Standard deviation	0.59	2.88	15.68	11.55	2.78	1.99	5.93	2.88

Note: A correlation of .25 is necessary for significance at the .01 level and a correlation of .20 is necessary for significance at the .05 level.

At the .01 level, eight bivariate relationships were statistically significant.

1. The mother's vocational orientation was positively and significantly related to the mother's educational level.
8. The mother's educational level was positively and significantly related to the mother's masculine personality traits.
11. The mother's educational level was positively and significantly related to the mother's desired vocational orientation for her daughter.
13. The mother's educational level was positively and significantly related to the vocational orientation of her daughter.
23. The mother's perceived vocational orientation of her daughter was positively and significantly related to the mother's desired vocational orientation for her daughter.
25. The mother's perceived vocational orientation of her daughter was positively and significantly related to the vocational orientation of the daughter.
27. The mother's desired vocational orientation for her daughter was positively and significantly related to the vocational orientation of the daughter.
28. The daughter's sex-role orientation was positively and significantly related to the vocational orientation of the daughter.

Testing of Path Models

The first of the path models to be tested involved the following variables--the mother's vocational orientation (MV), the mother's education (ME), the mother's masculine personality traits (MBSRI), the mother's perceived vocational orientation of daughter (MPVOD), the mother's desired vocational orientation of daughter (MDVOD), the daughter's sex-role orientation, and the vocational orientation of daughter (VOD). Figure 1 presents the first model. Figure 2 shows the second model which is identical to the first with the exception that the mother's feminine personality traits are substituted for the mother's masculine personality traits.

Five different multiple regressions were computed for each model.

Model I

The first equation involved two independent variables--the mother's vocational orientation and the mother's education. The dependent variable was the mother's masculine personality traits. The regression was computed and the F^2_{98} ratio was 10.94 ($p < .01$). Table 2 presents the individual and overall F ratios and gives the slope for the independent variables. The beta coefficients and the constant (intercept) also are presented in Table 2. The R^2 for the regression of the mother's masculine personality traits on the mother's vocational orientation and the mother's educational level was .18 (Table 3). While the overall F^2_{98} test (10.94; $p < .01$) was significant, only one of the individual F tests was significant. The mother's educational level is (F^1_{99} = 19.38; $p < .01$) the variable that contributes significantly to the

Table 2

Regression of the Mother's Masculine Personality Traits (n = 101)

Variables	b	Beta	F
Mother's vocational orientation	-1.81	-.07	.44
Mother's educational level	2.47	.46	19.38**
Constant (59.09)			

Note. R^2 = .18; Adj. R^2 = .17; F = 10.94 ($p < .01$); d.f. = 2 & 98.

** $p < .01$.

Table 3

Regression of the Mother's Perceived Vocational Orientation of Her Daughter (n = 101)

Variables	b	Beta	F
Mother's vocational orientation	.67	.14	1.67
Mother's educational level	.72	.08	.39
Mother's masculine personality traits	.28	.16	2.09
Constant (-1.66)			

Note. R^2 = .08; Adj. R^2 = .05; F = 2.69; d.f. = 3 & 97; F ratio nonsignificant.

explanation of the variance of the mother's masculine personality traits. The mother's vocational orientation does not contribute significantly to the regression.

The second multiple regression analysis appears in Table 3. This equation was the regression of the mother's perceived vocational orientation of her daughter on the mother's vocational orientation, the mother's educational level and the mother's masculine personality traits. None of the individual F tests (1.67; .39; 2.09) were significant (F^{3}_{97} = 2.69; n nonsignificant). Only 8% of the variance of the mother's perceived vocational orientation was explained by the mother's vocational orientation, the mother's educational level, and the mother's masculine traits. While none of the beta coefficients were significant, each was positive (.14; .08; .16).

Table 4 presents the multiple regression analysis of mother's desired vocational orientation for her daughter on the mother's vocational orientation, the mother's educational orientation, the mother's masculine personality traits, and the mother's perceived vocational orientation of her daughter. The overall F^{4}_{96} test was significant ($p < .01$) and the individual F^{1}_{99} tests suggest that the mother's educational level (F^{1}_{99} = 4.33; $p < .05$) and the mother's perceived vocational orientation of her daughter (F^{1}_{99} = 31.81; $p < .01$) are significant variables in the explanation of the mother's desired vocational orientation for her daughter. The data from the present study provide no support for the inclusion of either the mother's vocational orientation or the mother's masculine personality traits in the explanation of the mother's desired vocational orientation for her daughter. The R^{2} for this

Table 4

Regression of the Mother's Desired Vocational Orientation for Her Daughter (n = 101)

Variables	b	Beta	F
Mother's vocational orientation	-.14	-.04	.18
Mother's educational level	.14	.20	4.33*
Mother's masculine personality traits	-.00	-.00	.00
Mother's perceived vocational orientation of her daughter	.35	.49	31.81**
Constant (.56)			

Note. R^2 = .31; Adj. R^2 = .29; F = 14.377 ($p < .01$); d.f. = 4 & 96.

*$p < .05$.

**$p < .01$.

regression was .31, but only the mother's educational level and the mother's perceived vocational orientation of her daughter contribute significantly to the explanation of the variance of R, the mother's desired vocational orientation for her daughter.

The fourth multiple regression analysis involved MVO, ME, MBSRI, MPVOD, and MDVOD as independent variables, and the daughter's It Score as the dependent variable. The calculated F^{5}_{95} was 1.02 (nonsignificant) and the R^2 was .041, and the adjusted R^2 was .001. Table 5 presents a summary of this multiple regression analysis. Neither the overall F test nor the individual F tests reached the criteria for statistical

Table 5

Regression of the Daughter's Sex-Role Orientation (n = 101)

Variables	b	Beta	F
Mother's vocational orientation	-.29	-.01	.00
Mother's educational level	.13	.06	.31
Mother's masculine personality traits	-.25	-.07	.35
Mother's perceived vocational orientation of her daughter	.44	.21	3.03
Mother's desired vocational orientation of her daughter	-.97	-.03	.07
Constant (8.48)			

Note. R^2 = .04; Adj. R^2 = .001; F = 1.02; d.f. = 5 & 95; F ratio nonsignificant.

significance.

The summary of the regression of the daughter's sex-role orientation on the mother's vocational orientation, the mother's education orientation, the mother's masculine personality traits, the mother's perceived vocational orientation of her daughter, and the mother's desired vocational orientation for her daughter is presented in Table 5. None of the individual F^{1}_{99} tests were significant (.003, .31, .35, 3.03, .07) nor was the overall F^{5}_{95} test significant (1.02). Only 4% of the variance of the daughter's sex-role orientation was explained by the variables and, according to the beta coefficients, what variance is explained can be attributed to the mother's perceived vocational

orientation of her daughter. However, it should be emphasized that the regression equation from the present study provides no support for the hypothesis.

The last regression equation in the first path model was the regression of the vocational orientation of the daughter on the mother's vocational orientation, the mother's educational level, the mother's masculine personality traits, the mother's perceived vocational orientation for her daughter, and the daughter's sex-role orientation. A summary of this regression can be found in Table 6. Only two of the individual F tests were significant. This indicates that the mother's educational level ($F^{1}_{99} = 6.31$; $p < .05$) and the mother's perceived vocational orientation of her daughter ($F^{1}_{99} = 18.53$; $p < .01$) are significant variables in the equation. Both the individual F^{1}_{99} test of the mother's desired vocational orientation ($F^{1}_{99} = 2.71$) for her daughter and the daughter's sex-role orientation ($F^{1}_{99} = 3.39$) approach significance and suggest the need for further testing of the model. The R^2 for this regression was .39 which indicates that the variables in this equation explain .39 of the variance of the vocational orientation of the daughter. This leaves a residue of .61.

The first path model is composed of five regression equations. Each regression equation has been discussed and Figure 3 presents the path coefficients and residuals in the first path model which is an integration of the five multiple regression equations.

Table 6

Regression of the Vocational Orientation of the Daughter (n = 101)

Variables	b	Beta	F
Mother's vocational orientation	.07	.01	.01
Mother's educational level	.23	.23	6.31*
Mother's masculine personality traits	-.23	-.12	1.96
Mother's perceived vocational orientation of her daughter	.43	.41	18.53**
Mother's desired vocational orientation for her daughter	.23	.16	2.71
Daughter's sex-role orientation	.73	.15	3.39
Constant (.25)			

Note. R^2 = .39; Adj. R^2 = .36; F = 12.35 ($p < .01$); d.f. = 6 & 94.

*$p < .05$.

**$p < .01$.

Inspection of the path model depicted in Figure 3 indicates that

1. the mother's vocational orientation is not a significant variable in the explanation of the variance of the vocational orientation of the daughter,

2. the mother's educational level and the mother's perceived vocational orientation of her daughter contribute significantly to the explanation of the variance of the vocational orientation of her daughter,

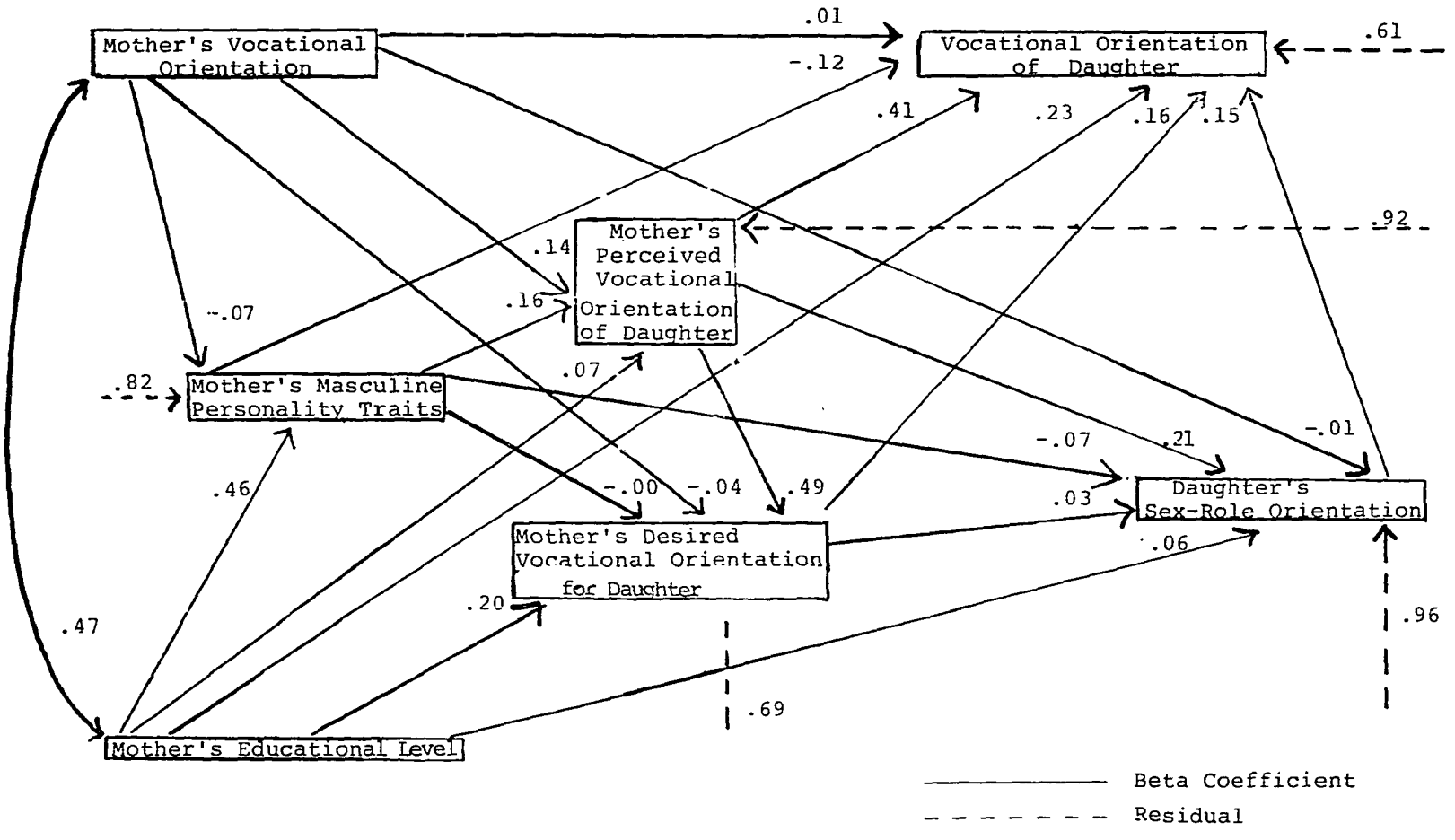

Figure 3. Path model 1

3. the mother's desired vocational orientation of the daughter and the daughter's sex-role orientation approach significance which suggests that these variables should be retained in the model,

4. further testing of the inclusion of the mother's masculine personality traits as part of the path model is indicated. The evidence, at present, is insufficient to drop the mother's masculine traits from the model,

5. the current path model explains 39% of the variance of the vocational orientation of the daughter, and

6. the addition of other variables to the model needs to be explored since 61% of the variance of the vocational orientation of the daughter remains unexplained.

Model 2

To determine whether the substitution of the mother's feminine personality traits for the mother's masculine personality traits would improve the capacity of the path model to explain the variance of the vocational orientation of the daughter, the second path model was developed. Figure 2 presented earlier shows the second path model which was developed and tested by the present researcher. Note that the only difference in the variables in Model 1 and Model 2 is in Model 2, the mother's feminine personality traits was substituted for the mother's masculine personality traits. No other change was made in the model. Figure 4 presents the path coefficients and the residuals from the regression in Model 2. Inspection in Figure 4 suggests that the two models are statistically equivalent in their capacity to predict the

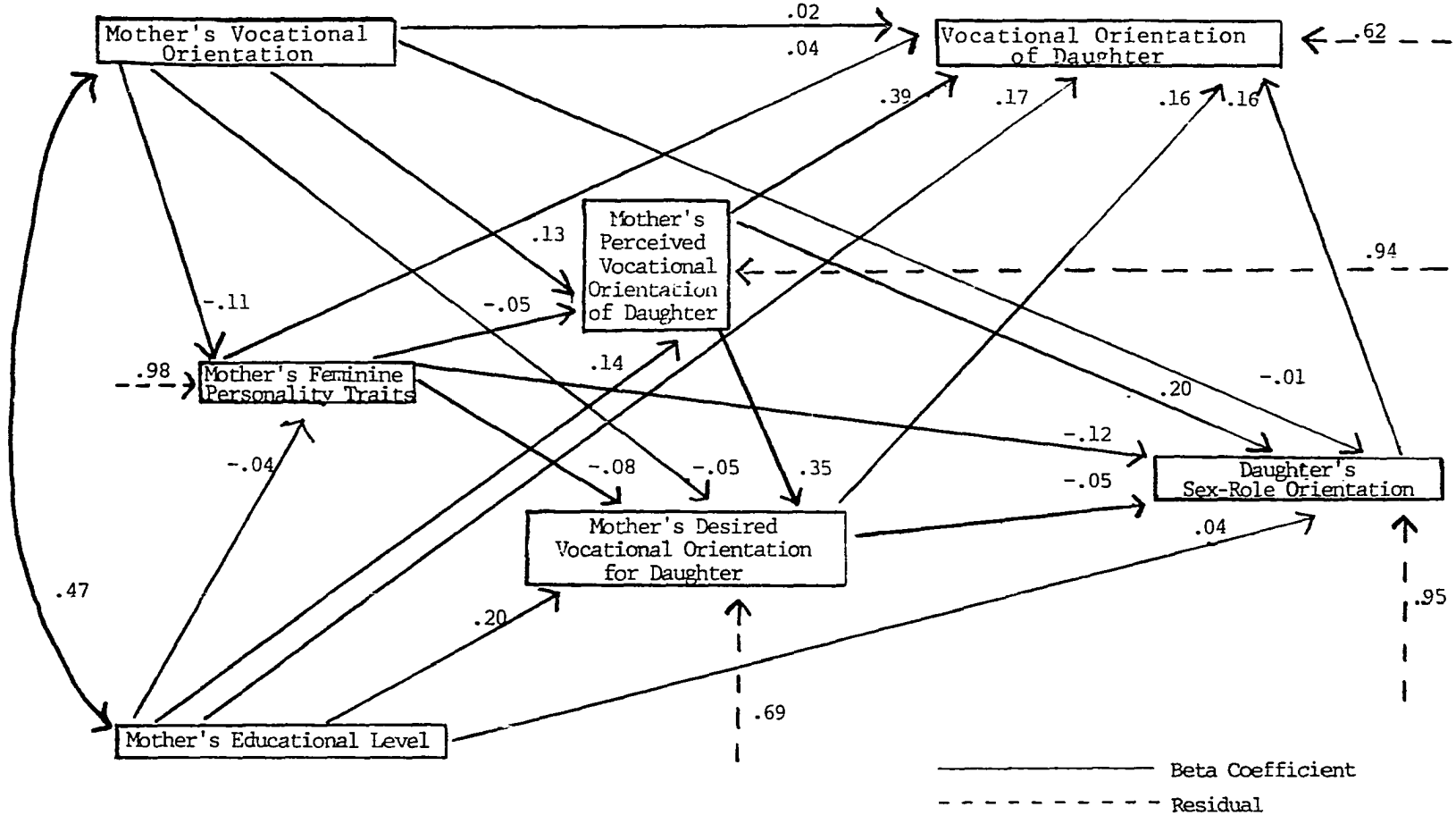

Figure 4. Path model

vocational orientation of daughters. A discussion of the comparison of the two models follows, and differences in the models are addressed.

Table 7 presents a comparison of the regression of the mother's feminine personality traits on the mother's vocational orientation and the mother's educational level to the regression of the mother's masculine personality traits on the mother's vocational orientation and the mother's educational level. Neither the overall F test ($F^2_{98} = .93$) of the regression of the mother's feminine personality traits on the mother's vocational orientation and the mother's educational level nor the individual F tests are significant. Therefore, no evidence is provided which indicates these factors are important in the explanation of the variance of the mother's feminine personality traits. Since the R^2 is only .02, the analyses of the data suggest that the mother's vocational orientation and the mother's educational level are insignificant variables and do not contribute to the explanation of the mother's feminine personality traits. On the other hand, the mother's educational level is significant in the explanation of the mother's masculine personality traits and the overall F^2_{98} test (10.94) is significant in the regression of the mother's masculine personality traits on the mother's vocational orientation and the mother's educational level (Model 1). These findings suggest that the mother's vocational orientation and the mother's educational level are more important factors in explaining the mother's masculine personality traits than in explaining the mother's feminine personality traits.

Table 7

Regression of mother's masculine personality traits on mother's vocational orientation and mother's educational level compared to the regression of mother's feminine personality traits on mother's vocational orientation and mother's education level (n = 101)

Model 1				Model 2			
Mother's masculine personality traits				Mother's feminine personality traits			
Variables	b	Beta	F	Variables	b	Beta	F
Mother's vocational orientation	-1.81	-.07	.44	Mother's vocational orientation	-2.13	-.11	.93
Mother's educational level	2.47	.46	19.38**	Mother's educational level	-.18	-.04	.16
Constant (59.09)				Constant (107.43)			
R^2 = .18	d.f. = 2 & 98			R^2 = .02	d.f. = 2 & 98		
Adj. R^2 = .17	F = 10.94 (p < .01)			Adj. R^2 = .01	F = .93 (nonsignificant)		

** p < .01.

Table 8 presents regression of the mother's perceived vocational orientation of her daughter from Model 1 and Model 2. In Model 1, the mother's perceived vocational orientation of her daughter is regressed on the mother's vocational orientation, mother's educational level, and the mother's masculine personality traits. In Model 1, the overall F ratio was nonsignificant ($F^{3}_{97} = 2.68$) and none of the individual F tests were significant. The independent variables in the regression explain only 8% of the variance of the mother's perceived vocational orientation of her daughter.

In Model 2, the mother's perceived vocational orientation of her daughter is regressed on the mother's vocational orientation, the mother's educational level, and the mother's feminine personality traits. Neither the overall F test ($F^{3}_{97} = 2.03$) nor the individual F tests were significant. Model 2 explains only 6% of the variance of the mother's perceived vocational orientation of her daughter. Hence, neither model is adequate in the explanation of the mother's perceived vocational orientation of the daughter and neither is statistically superior to the other.

The regression of the mother's desired vocational orientation for her daughter in the two models is contained in Table 9. On Model 1, the mother's desired vocational orientation for her daughter is regressed on the mother's vocational orientation, the mother's educational level, the mother's masculine personality traits, and the mother's perceived vocational orientation of her daughter. The overall F test ($F^{4}_{96} = 14.38$) was significant and the individual F test involving the mother's

Table 8

Regression of mother's perceived vocational orientation of her daughter from model 1 and model 2 (n = 101)

Model 2				Model 2			
Variables	b	Beta	F	Variables	b	Beta	F
Mother's vocational orientation	.67	.14	1.67	Mother's vocational orientation	.60	.13	1.29
Mother's educational level	.72	.07	.39	Mother's educational level	.14	.14	1.66
Mother's masculine personality traits	.28	.16	2.09	Mother's feminine personality traits	-.11	-.05	.22
Constant (-1.66)				Constant (1.18)			
R^2 = .08	d.f. = 3 & 97			R^2 = .06	d.f. = 3 & 97		
Adj. R^2 = .05	F = 2.68 (nonsignificant)			Adj. R^2 = .03	F = 2.03 (nonsignificant)		

Table 9

Regression of mother's desired vocational orientation for her daughter from model 1 and model 2 (n = 101)

Model 1				Model 2			
Variables	b	Beta	F	Variables	b	Beta	F
Mother's vocational orientation	-.14	-.04	.18	Mother's vocational orientation	-.17	-.05	.26
Mother's educational level	.14	.20	4.33*	Mother's educational level	.14	.20	4.19*
Mother's masculine personality traits	-.00	-.00	.00	Mother's feminine personality traits	-.15	-.08	.98
Mother's perceived vocational orientation of her daughter	.35	.49	31.81**	Mother's perceived vocational orientation of her daughter	.35	.49	31.21**
Constant (.56)				Constant (2.13)			
R^2 = .31	d.f. = 4 & 96			R^2 = .31	d.f. = 4 & 96		
Adj. R^2 = .29	F = 14.98 (p < .01)			Adj. R^2 = .29	F = 11.03 (p < .01)		

*p < .05.

**p < .01.

perceived vocational orientation of her daughter was significant ($F^{1}_{99} = 31.81$). The R^2 was .31, indicating that 31% of the variance of the mother's desired vocational orientation for her daughter can be explained by the variables in the regression equation in Model 1.

In Model 2, 31% of the variance of the mother's desired vocational orientation for her daughter is explained by the variables in the model. The overall F test was significant ($F^{4}_{96} = 11.03$) and, like in Model 1, the individual F test involving the mother's perceived vocational orientation of the daughter was significant ($F^{1}_{99} = 31.21$). Indications are that the models are equivalent predictors of the mother's desired vocational orientation for her daughter.

The regression of the daughter's sex-role orientation from Model 1 and Model 2 can be found in Table 10. In Model 1, the daughter's sex-role orientation is regressed on the mother's vocational orientation, the mother's educational level, the mother's perceived vocational orientation of her daughter, and the mother's desired vocational orientation for her daughter. The R^2 for Model 1 was .04, indicating that only 4% of the variance of the daughter's sex-role orientation can be explained by the independent variables in the regression. Neither the overall F^{5}_{95} was significant (1.02) nor were any of the individual F tests significant in the regression of the daughter's sex-role orientation in Model 1. Because of the statistics, one is led to conclude that the variables in the regression of the daughter's sex-role orientation from Model 1 are insufficient in the explanation of the daughter's sex-role orientation.

Table 10

Regression of the daughter's sex-role orientation from model 1 and model 2 (n = 101)

Model 1				Model 2			
Variables	b	Beta	F	Variables	b	Beta	F
Mother's vocational orientation	-.29	-.01	.00	Mother's vocational orientation	-.12	-.01	.01
Mother's educational level	.13	.06	.31	Mother's educational level	.73	.04	.09
Mother's masculine personality traits	-.25	-.07	.35	Mother's feminine personality traits	-.61	-.12	1.38
Mother's perceived vocational orientation of her daughter	.44	.21	3.03	Mother's perceived vocational orientation of her daughter	.42	.20	2.82
Mother's desired vocational orientation for her daughter	-.97	-.03	.07	Mother's desired vocational orientation for her daughter	-.14	-.05	.15
Constant (8.48)				Constant (13.58)			
F^2 = .04	d.f. = 5 & 95			R^2 = .05	d.f. = 5 & 95		
Adj. F^2 = .00	F = 1.02 (nonsignificant)			Adj. R^2 = .00	F = 1.02 (nonsignificant)		

The statistics are similar for the regression of the daughter's sex-role orientation in Model 2. For the regression of the daughter's sex-role orientation, neither the overall F^{5}_{95} (F^{5}_{95} = 1.02) nor the individual F^{1}_{99} tests in Model 2 were significant. Furthermore, only 5% of the variance of the daughter's sex-role orientation can be explained by the independent variables in the regression in Model 2. Hence, the regression of the daughter's sex-role orientation from Model 2 appears inadequate in the capacity to predict the daughter's sex-role orientation.

The last of the multiple regressions in Model 1 and Model 2 involves the regression of the vocational orientation of the daughter on all of the other variables in each of the models. The statistics from this regression in Model 1 and Model 2 are contained in Table 11.

In Model 1, the overall F^{6}_{94} was significant (F^{6}_{94} = 12.35) and two of the individual F^{1}_{99} tests were significant and can be noted in Table 11. Two of the other variables approached significance and these were the mother's desired vocational orientation for her daughter and the daughter's sex-role orientation. Of the path coefficients, only the path, mother's masculine personality traits, was negative; all other path coefficients were positive. The R^{2} for the last equation in Model 1 was .39 indicating that 39% of the variance of the vocational orientation of the daughter is explained by the regression of the vocational orientation of the daughter on all other variables in Model 1.

In Model 2, the overall F^{6}_{94} test (F^{6}_{94} = 9.74) was significant, but only one of the individual F^{1}_{99} tests was significant. That F^{6}_{94} test involved the regression of the vocational orientation of the daughter on the mother's perceived vocational orientation. Three of the other

Table 11

Regression of the vocational orientation of the daughter from model 1 and model 2 (n = 101)

Model 1				Model 2			
Variables	b	Beta	F	Variables	b	Beta	F
Mother's vocational orientation	.07	.01	.01	Mother's vocational orientation	.11	.02	.06
Mother's educational level	.23	.23	6.31*	Mother's educational level	.17	.17	3.24
Mother's masculine personality traits	-.23	-.12	1.96	Mother's feminine personality traits	.97	.04	.22
Mother's perceived vocational orientation of her daughter	.43	.41	18.53**	Mother's perceived vocational orientation for her daughter	.41	.39	16.26**
Mother's desired vocational orientation for her daughter	.23	.16	2.71	Mother's desired vocational orientation for her daughter	.24	.16	2.79
Daughter's sex-role orientation	.73	.15	3.39	Daughter's sex-role orientation	.78	.16	3.78
Constant (-.25)				Constant (-2.68)			
R^2 = .39	d.f. = 6 & 94			R^2 = .38	d.f. = 6 & 94		
Adj. R^2 = .36	F = 12.36 (p < .01)			Adj. R^2 = .34	F = 9.74 (p < .01)		

*p < .05.

**p < .01.

independent variables in the regression of the daughter's vocational orientation (Model 2) approached significance and they were

1. the mother's educational level,
2. the mother's desired vocational orientation, and
3. the daughter's sex-role orientation.

The individual F^{1}_{99} tests for the last regression equation are presented in Table 11. The R^2 from the regression of the daughter's vocational orientation in Model 2 was .38 which indicates that Model 2 explains 38% of the variance of the vocational orientation of daughters. The evidence suggests that the regression of the daughter's vocational orientation from Model 1 and Model 2 are equivalent in the capacity to predict the vocational orientation of daughters.

DISCUSSION

The purpose of the present study was to determine the degree to which the sex-role orientation and vocational orientation of mothers and daughters are alike. Two path models were developed and tested. This section provides a discussion linking previous research to the significant bivariate and multivariate relationships among the variables in the present study. These variables are mother's vocational orientation, mother's educational level, mother's masculine personality traits, mother's feminine personality traits, mother's perceived vocational orientation of her daughter, mother's desired vocational orientation for her daughter, daughter's sex-role orientation, and the vocational orientation of the daughter.

In addition to the discussion of the present findings as they relate to other research findings, the implications and applications of the present research for child developmentalists, parents, counselors, educators, and allied professionals are discussed. Limitations of the present study are delineated, and suggestions for future research are made.

Mother's Vocational Orientation

Research by Mason et al. (1976) suggests that those women who are employed have a less traditional sex-role orientation than those women who are unemployed. In addition, the more feminine personality traits a mother possesses, the more traditional the mother's vocational

orientation. Hence, as the mother's vocational orientation moves out of the traditional occupations, the more masculine traits and fewer feminine traits she is likely to possess.

Mason et al. (1976) also point out that the greater the formal education attained by a woman, the more nontraditional the woman's vocational orientation. The findings of the present study continue to lend support to the conclusion drawn by Mason et al. (1976). The more formal education attained by the mother, the more likely she is to have a nontraditional vocational orientation. One reason for this finding is that traditionally the male occupations are more likely to require more formal education than traditionally female occupations. Therefore, the more formal the educational training a mother possesses, the more likely it is that she will report a nontraditional vocational orientation.

Mother's Education

Mason et al. (1976) concluded that women who are educated are more likely to be nontraditional in sex-role orientation than are nonformally educated women. The present study continues to lend support to the contention of Mason et al. (1976). In fact, the present findings indicate that the greater the number of years of formal education completed by the mother, the greater the number and intensity of traditionally masculine traits possessed by the mother. Two of the possible explanations for this finding are 1) the formal educational process itself broadens an individual's perception of what attributes constitute sex appropriate

behavior and as a result more cross-sex attributes are adopted, and 2) the formal educational process may operate selectively to the extent that, in order for an individual to achieve successfully in the educational system, the individual must be ambitious, independent, assertive, analytical, and competitive; traits which have been labeled masculine (Bem, 1974). At this point, neither of these hypotheses has been addressed. Hence, additional research investigating the causal relationship between the variables, the mother's educational level and her sex-role orientation, is warranted. What the present study suggests is that the mother's education affects or is affected by the mother's sex-role orientation.

The mother's level of education also seems important in regard to the mother's desired vocational orientation for her daughter. While no existing empirical research regarding mother's educational level and mother's desired vocational orientation for her daughter was found, the current findings seem to support the social learning theory (Bandura, 1967; Bandura & Walters, 1963; Dollard & Miller, 1950; Lynn, 1969; Mischel, 1966, 1970). Parents model behavior and reinforce behavior which they desire their children to replicate. Since traditionally masculine vocations tend to require more education than nontraditionally masculine vocations, a mother who is formally educated would be expected to express a desire for her daughter to be formally educated and, therefore, the mother would be more likely to desire her daughter to pursue a vocation requiring a higher degree of formal education than one requiring minimal training. Since nontraditionally feminine vocations

tend to require more education than traditionally feminine vocations, one would expect a highly educated mother to desire her daughter to choose a nontraditional vocation as an adult. Additional research to test this postulate which links specifically mother's education, mother's desired educational level for her daughter, and mother's desired vocation orientation for her daughter is in order before the contention posed here can be accepted with confidence.

Mother's Perceived Vocational Orientation of Her Daughter

According to social learning theory (Bandura, 1967; Bandura & Walters, 1963; Dollard & Miller, 1950; Lynn, 1969; Mischel, 1966, 1970), parents reinforce their children for behavior which they value and define as appropriate. In addition, a parent is more likely to perceive his/her child as similar than dissimilar. In reviewing the literature, no study was found in which the mother's perceived vocational orientation of her daughter was compared to the mother's vocational orientation. However, the findings of the present study suggest that the more nontraditional the mother's vocational orientation, the more nontraditional the mother's perceived vocational orientation of her daughter. This lends support to the theoretical contention that the parents see their children as more similar than dissimilar to themselves.

Another important finding of the present research concerns the mother's formal education as it relates to her perceived vocational orientation of her daughter. When a mother is highly educated, she tends to perceive her daughter's vocational orientation as nontraditional. This suggests that appropriate behavior is less clearly defined

and a wider range of behavior for one's daughter is acceptable vocationally when a mother is highly educated. Hence, the more highly educated the mother, the less restrictive, based on sex lines, she is in her perceived vocational orientation of her daughter. Since no other research could be identified in which the relationship of mother's education and mother's perceived vocational orientation of her daughter had been studied, the conclusions drawn, based on the present study, require further empirical testing.

The findings from the present study seem to suggest that the more masculine personality traits possessed by the mother, the more likely the mother is to perceive her daughter in a nontraditional vocational orientation. Since other empirical studies could not be found to lend support to this finding, additional research regarding the effect of the mother's sex-role orientation on the mother's perception of the vocational orientation of her daughter should be undertaken.

The mother's sex-role orientation is an important factor in the development of sex-typed behavior in her daughter (Biller, 1971; Fitzgerald & Roberts, 1966; Hartup, 1962; Heilbrun, 1965; Kagan & Lemkin, 1960). Furthermore, children tend to be like their like-sex parent (Biller & Barry, 1971; Kelly & Worell, 1976). According to theory which has been supported by empirical research, when appropriate sex-role identification occurs, the child views himself/herself to be more similar to the same-sex parent (Burr, 1973; Etaugh, 1974). Perhaps the reverse is also true. When appropriate sex-role identification occurs, the mother may tend to perceive her daughter's vocational orientation as

less traditional when the mother is less traditional in her sex-role orientation. This is certainly one possible explanation of the present findings.

The mother's perceived vocational orientation of her daughter tends to be congruent with the mother's desired vocational orientation for her daughter. The more nontraditional the mother's perceived vocational orientation of her daughter, the more nontraditional the mother's desired vocational orientation for her daughter. The relationship between the perceived and the desired vocational orientation for her daughter may be a reflection of social desirability. The mother may report her desired vocational orientation congruent with her perceived vocational orientation of her daughter more as a function of the cultural value of free choice than as a function of the actual consistency of her perceived and desired vocational orientation for her daughter. A number of mothers participating in the study commented that they had no preference as to their daughter's future vocation as long as she was happy performing her chosen vocation.

To date, no empirical research has been reported in the literature in which the relationship between the mother's perceived vocational orientation of her daughter and the mother's desired vocational orientation for her daughter has been investigated. Therefore, before the tentative findings of the present study can be viewed with confidence, additional research is warranted.

The mother's perceived vocational orientation of her daughter also was found to be related to the daughter's vocational orientation. The

more nontraditional the perception of the mother, the more nontraditional the vocation orientation of the daughter. Apparently, what a mother regards as her daughter's vocational interest is, more frequently than not, congruent with what the daughter reports as her vocational interest. Mothers seem to be aware of their daughters' vocational interests and may in their differential reinforcement contingencies during the process of socialization communicate certain vocational expectations. Because the mother's perception tends to be consistent with her daughter's actual vocational orientation, the phenomenon of identification may be an important element in the process of vocational development. These findings seem to support the theoretical postulates of social learning theory.

Vocational Orientation of Daughters

In further support of social learning theory and the notion of modeling as a potent element in the shaping of behavior is the finding that the more nontraditional the vocational orientation of the mother, the more nontraditional the vocational orientation of the daughter. The present research is consistent with previous reported research (Almquist & Angrist, 1971; Ginzberg, 1971; Stein, 1973; Tangri, 1972). Hartley (1960) concluded that girls of nontraditional mothers view maternal employment as desirable. Almquist and Angrist (1971) found that career oriented college women are more likely to be daughters of career women than are noncareer oriented college women. In addition, Stein (1973) suggests that the mother's employment history is a primary factor in her daughter's plans for a career after marriage. Therefore,

the current study continues to support theoretical contentions as well as previous empirical findings.

The mother's level of education is related to the degree of traditional vocational orientation of the daughter. The more formal education completed by the mother, the more nontraditional the daughter's vocational orientation. Social learning theorists contend that parents communicate through reinforcement contingencies what constitutes the range of acceptable behavior for their children. If mothers who are highly educated are less likely to be traditional in their own vocational orientation, then these mothers would model and reinforce a nontraditional vocational orientation in their daughters. Therefore, one would expect to find highly educated mothers to have daughters with nontraditional vocational orientations. Such is the finding of the present study; thus, support for social learning theory is provided.

The mother's desired vocational orientation for her daughter is related to the daughter's stated vocational orientation. The results of the analysis of data suggest that mothers who desire their daughters to choose nontraditional vocations tend to have daughters who actually choose nontraditional vocations. In some way, by the time the daughters have reached the third grade, mothers have communicated to their daughters what they wish their daughters to pursue in regard to the range of acceptable vocational interests. This assertion seems to be consistent with the tenets of social learning theory; parents tend to model and shape behavior which they expect of their offspring. Therefore, in the process of vocational development, mothers must be involved

in differentially reinforcing their daughters vocational interests such that the daughter is inclined to report a vocational orientation which is consistent with her mother's desired vocational orientation for her daughter.

Indications are that the vocational orientation of the daughter influences her sex-role orientation. The more nontraditional the sex-role orientation of the daughter, the more nontraditional her vocational orientation. When a daughter prefers play items that are defined as traditionally masculine and when she identifies more closely with the opposite sex than with her own, she is likely to choose a traditionally masculine occupation over a traditionally feminine occupation when asked to choose between paired occupations, one of which is traditionally masculine and the other is traditionally feminine. The range of job interests among young girls appears to be influenced by the child's sex-role orientation. Apparently, a girl who is interested in typically feminine play objects does not tend to be interested in masculine oriented careers. However, a girl who is interested in typically masculine objects and who has failed to become sex-typed is inclined to choose a career orientation which is typically masculine. Hence, the process of vocational development and the aligning of vocational interests seems to be linked to the sex-role orientation of the young girl.

The Path Models

The only difference in the variables in the two path models is that the first model involves a measure of the number and intensity of masculine personality traits possessed by the mother, and the second

path model involves a measure of the number and intensity of feminine personality traits possessed by the mother. Statistically, the two models are equivalent, and only minor variations in the relationship among the variations in the relationship among the variables are noted (Figure 3 and Figure 4).

From the analysis of the data, one can assert that the models developed and tested in the present study offer insight into the process of vocational development among women. Substantively, support for the integration of the variables in the model is provided, and four of the six variables in the model contribute considerably to the understanding of the vocational orientation of young girls. These four variables are mother's educational level, mother's perceived vocational orientation of her daughter, mother's desired vocational orientation for her daughter, and the daughter's sex-role orientation.

The data seem to indicate that the mother's educational level, the mother's perceived vocational orientation of her daughter, and the daughter's sex-role orientation are determinants of the daughter's vocational orientation. The present data do not indicate that the mother's masculine or feminine traits are significant determinants of the daughter's vocational orientation. These findings are inconsistent with those of other researchers. Study after study has provided evidence that the mother's vocational orientation is a determinant of the daughter's vocational orientation (Almquist & Angrist, 1971; Douvan & Adelson, 1966; Hartley, 1960; Kraus, 1964; Marantz & Mansfield, 1977; Mason et al., 1976; Miller, 1975; Stein, 1973; Vogel et al., 1970).

Previous research also has indicated that the sex-role orientation of the mother is an important factor in the daughter's developmental process (Barnett, 1971; Elder, 1963; Simpson, 1962; Vogel et al., 1970). Because previous research findings contradict the present ones, to discard the mother's vocational orientation and the mother's sex-role orientation from the model would likely result in accepting the null hypothesis when it should be rejected. Because of the lack of variation in the mother's vocational orientation and mother's sex-role orientation of the participants in the present study, the lack of statistical significance of these variables in the model may be a reflection of the lack of variation in the measurement rather than the irrelevance of these variables in the model. Therefore, before a revision of the model is considered, further testing of the original models is warranted.

According to the findings of the present study, the mother's perceived vocational orientation of the daughter is the most significant variable in both models. The more nontraditional the mother's perception of her daughter's vocational orientation, the more nontraditional the daughter's vocational orientation.

After the mother's perceived vocational orientation, the mother's level of education is the most significant factor in determining the daughter's vocational orientation. The higher the level of education achieved by the mother, the more nontraditional the daughter's vocational orientation. Therefore, daughters who have nontraditional career interests tend to have highly educated mothers.

Following the mother's perceived vocational orientation of her daughter and the mother's level of education, the next important factor in determining the daughter's vocational orientation is the mother's desired vocational orientation for her daughter. The more nontraditional the mother desires her daughter's vocational interests to be, the more nontraditional the daughter's actual vocational interests. Therefore, mothers who want their daughters to pursue atypical careers for women tend to have daughters who express interest in occupations typically performed by men.

The last variable which contributes measurably to the explanation of the daughter's vocational orientation is the daughter's sex-role orientation. The more masculine the girl's sex-role orientation, the more interested she is in pursuing an occupation which is typically performed by men. Hence, girls who are not sex-typed are not likely to be interested in jobs like teacher, nurse, and secretary. Instead, they are more likely to express interest in jobs like pilot, pharmacist, and police officer.

When one is interested in predicting the vocational orientation of young girls, four factors seem of particular interest: the mother's perceived vocational orientation of her daughter, the mother's formal level of education, the mother's desired vocational orientation for her daughter, and the daughter's sex-role orientation. Therefore, if one knows that a young girl has a nontraditional sex-role orientation, that her mother is highly educated, that her mother perceives her daughter as having nontraditional career interests, and that her mother

desires her daughter to pursue a nontraditional career, then one would expect the young girl to actually have nontraditional career interests. The findings of this study support this contention.

Implications of the study

Although no significant difference exists between the two path models (Figures 3 & 4), the testing of the two models has contributed to the explanation of the vocational orientation of daughters. Indications are that mother's education, mother's perceived vocational orientation of her daughter, mother's desired vocational orientation for her daughter, and daughter's sex-role orientation are important factors which influence a girl's vocational orientation. Furthermore, the mother influences the daughter's vocational development in a number of ways and one can conclude that for the girls in this study, the mother is a potent factor exerting considerable influence on the daughter's vocational orientation. This finding is congruent with the contentions of social learning theorists and supports the previous findings of Barnett (1971), Etaugh (1974), Kagan (1964), Kagan and Moss (1962), and Woods (1972) that the mother is a significant influence on the development of her daughter.

The present study offers insight into the vocational developmental process. The findings can be applied by professionals in the field of child development, parents, educators, counselors, and allied professionals. Professionals can utilize the present findings in expanding their theoretical constructs of vocational development. In addition, the findings can serve as a catalyst in the design of future research.

To date, the research is sparce in the area of vocational development among women. Continued research in the process of vocational development among women should be a priority among developmentalists. With the number of women in the work force continually increasing and with more and more women pursuing nontraditional careers, more information needs to be gathered regarding vocational development so that adequate vocational guidance and counseling of women can be facilitated.

Since mothers constitute such an important factor in the general socialization of their children and because the findings of the present study indicate that mothers play a dominant role in determining the vocational orientation of daughters, raising the level of awareness among mothers concerning the range of possible vocational choices appropriate for their daughters seems important. If mothers are a major determinant in the vocational development of daughters, then more parenting information which would increase a mother's parenting skills in yet another essential aspect in which parents socialize their children needs to be provided.

In addition to the implications for parents and child developmentalists, the present study is relevant to educators and counselors. These professionals need to be informed as to the trends among children in terms of general vocational interests and what the projected needs are in the job market. Educators and counselors can help students channel their vocational interests in fields with the greatest opportunity for employment. If young girls are showing a wider range of interests vocationally, then programs need to be developed and provided in which

girls can explore interests unrestricted because of sex. This suggestion complies with the provisions of federal laws and the tenets of the equal rights movement.

Therefore, counselors can utilize the tentative findings of the present study to develop programs to disseminate information to mothers and daughters regarding the range of vocational options open to young girls. Further, curriculum planning by educators for young girls needs to be broad so that a girl's career interests will not be prematurely blocked and parental involvement in curriculum planning may prove to be valuable. As vocational guidance becomes a more integrated part of the school curriculum, environmental influences, of which the parents play a dominant role, need to be considered.

Finally, since much of one's life span involves the active participation of the individual in one or more vocations, vocational development represents an essential component in the integrated evolution of the individual. For adjustment to be optimal, each person must be well-integrated and the facilitation of vocational development in women is essential to adequate growth and development.

Limitations of the Study

The present study was a purposive one, and all findings must be regarded as tentative. The sample was not random nor did it meet the assumptions of a normative distribution. Adult subjects in the sample were well-educated with a mean educational level considerably higher than the general population. The mothers and daughters were White, and the socio-economic class was middle class. Because of these limitations,

cautions must be imposed in the interpretation of the data, and care must be taken not to overgeneralize. The findings can be regarded as preliminary in terms of the substantive gathering of information concerning the vocational developmental process among women. The strength of the findings and the statistical support of the path models tested reflect the capacity of the proposed models to predict the vocational orientation of daughters. However, the instruments employed in the study need further evaluation before one can be confident that the instruments are both valid and reliable. At present, one cannot be certain that the findings are truly representative of the phenomena in question.

Implications for Future Research

Because the findings of the present study are preliminary, the study needs to be replicated using a randomized sample of mother-daughter pairs. Such a study would permit more adequate testing of the models and aid in the determination of the best model for the explanation of the process of vocational development among women.

In addition, a longitudinal study seems appropriate since development is an orderly and continuous process. Vocational development occurs over time and in order to infer age changes, longitudinal studies are essential. Otherwise, the data will only reflect age differences and not real developmental change in a dynamic process. Furthermore, the study should be designed in such a way as to lend insight regarding the dynamic interaction that occurs between mothers and daughters in the course of the vocational developmental process. A multimethod

approach should be considered for the design.

Expansion of the current path models to include assessment of the role of the father in the process of vocational development among young girls seems appropriate. Lynn (1969) has pointed out the significant role which fathers play in the development of their daughters. To ignore the father's role in the study of vocational development among girls would be naive. Research must be designed which would tap paternal influence in the course of the vocational developmental process among young girls. As is true for other aspects of development, one will probably find that both mother and father have a dynamic interactional effect on the vocational developmental process of daughters (Biller, 1971; Biller & Barry, 1971; Lynn, 1969, 1976).

Finally, the models should be expanded to measure the effect of birth order and siblings on the vocational development among girls. Likely, one would find that the family constellation has a potent effect on career development. Siblings constitute an important element in other siblings' development. All aspects of the environment contribute to the development of the individual. Measurement regarding the impact of siblings and birth order on the vocational developmental process represents an important problem for future research.

SUMMARY

The current study was undertaken to explore the relationship among the variables: the mother's vocational orientation, the mother's educational level, the mother's masculine personality traits, the mother's feminine personality traits, the mother's perceived vocational orientation of her daughter, the mother's desired vocational orientation for her daughter, the daughter's sex-role orientation, and the vocational orientation of the daughter. Based on the tenets of modeling from social learning theory and from previous research findings, two path models were developed and tested. Because of the sampling procedure and the developmental stage of the models, the study was a purposive one, and all findings should be regarded as tentative.

Subjects were 101 mother-daughter pairs. The sample was all White and middle class. All daughters were in either third or fourth grade. The mothers were mailed questionnaires and the daughters completed the It Scale and the Vocational Orientation of Daughters reasurement in small groups. The Pearson Product-Moment Correlation Coefficients were computed among all variables and the F tests for the five multiple regression equations in Model 1 and Model 2 were calculated. The following relationships between the variables were positive and significant.

1. The mother's vocational orientation was positively and significantly related to the mother's educational level.
2. The mother's vocational orientation was positively and significantly related to the mother's perceived vocational orientation of her daughter.
3. The mother's vocational orientation was positively and significantly related to the vocational orientation of the daughter.

4. The mother's educational level was positively and significantly related to the mother's masculine personality traits.

5. The mother's educational level was positively and significantly related to the mother's perceived vocational orientation of her daughter.

6. The mother's educational level was positively and significantly related to the mother's desired vocational orientation for her daughter.

7. The mother's educational level was positively and significantly related to the vocational orientation of the daughter.

8. The mother's masculine personality traits were positively and significantly related to the mother's perceived vocational orientation of the daughter.

9. The mother's perceived vocational orientation of her daughter was positively and significantly related to the mother's desired vocational orientation for her daughter.

10. The mother's perceived vocational orientation of her daughter was positively and significantly related to the vocational orientation of the daughter.

11. The mother's desired vocational orientation for her daughter was positively and significantly related to the vocational orientation of the daughter.

12. The daughter's sex-role was positively and significantly related to the vocational orientation of the daughter.

The five regression equations making up each of the path models were computed. The first path model explained 39% of the variance of the vocational orientation of daughters and the second path model explained 38% of the vocational orientation of daughters. On the basis of the statistics of the two models, the researcher concluded that the models were equivalent.

The findings from the study support the models which were developed and indicate that the theoretical notion of modeling plays an important

role in the vocational development process.

The study has important implications for the child developmentalists, parents, counselors, educators, and allied professionals. Research replicating the existing models and research expanding the models to include paternal and sibling influence on vocational development was suggested.

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APPENDIX C. MEASUREMENTS OF VOCATIONAL ORIENTATION

MOTHER'S PERCEIVED VOCATIONAL ORIENTATION OF DAUGHTER (MPVOD)

NAME OF RESPONDENT_____

RESPONDENT #_____

AGE OF RESPONDENT_____

AGE OF DAUGHTER PARTICIPATING IN THE STUDY_____

RESPONDENT'S OCCUPATION_____

RESPONDENT'S EDUCATION_____
Last Year of Formal School Completed

MARITAL STATUS_____

OF CHILDREN LIVING AT HOME_____

OF SIBLINGS OLDER THAN THE DAUGHTER PARTICIPATING IN THE STUDY_____

OF SIBLINGS YOUNGER THAN THE DAUGHTER PARTICIPATING IN THE STUDY_____

A number of pairs of occupations will be presented to your child. From each pair your child will be asked to choose the one she believes she would rather do when she grows up. Below are the job pairs from which your daughter will be asked to choose. Please look at each pair and circle the occupation in each pair which you think your daughter will say she would rather do as an adult.

For example: If your daughter were asked "When you grow up which of these would you rather be?"

a. Lawyer
b. Dietitian

Circle "a" if you think she would say she'd rather be a Lawyer.

Circle "b" if you think she would say she'd rather be a Dietitian.

1. a. Nurse
   b. Pilot
2. a. Mail Carrier
   b. Bank Teller
3. a. Cashier
   b. Truck Driver
4. a. House Painter
   b. Clothesmaker
5. a. Receptionist
   b. Milk Delivery Person
6. a. Veternarian
   b. Teacher
7. a. Secretary
   b. Construction Worker
8. a. Pharmacist
   b. Librarian
9. a. Maid
   b. Stock Clerk

(MPVOD)

10. a. Fire Fighter

    b. Flight Attendent

11. a. Beautician

    b. Car Mechanic

12. a. Telephone Repairperson

    b. Telephone Operator

13. a. X-Ray Technician

    b. Police Officer

14. a. Gas Station Attendent

    b. Waitress

MOTHER'S DESIRED VOCATIONAL ORIENTATION FOR DAUGHTER

(MDVOD)

NOW LOOK AT EACH PAIR OF OCCUPATIONS AND CHOOSE THE OCCUPATION IN EACH PAIR IN WHICH YOU WOULD RATHER SEE YOUR DAUGHTER EMPLOYED AS AN ADULT.

1. a. Nurse
   b. Pilot
2. a. Mail Carrier
   b. Bank Teller
3. a. Cashier
   b. Truck Driver
4. a. House Painter
   b. Clothesmaker
5. a. Receptionist
   b. Milk Delivery Person
6. a. Veternarian
   b. Teacher
7. a. Secretary
   b. Construction Worker
8. a.Pharmacist
   b. Librarian
9. a. Maid
   b. Stock Clerk
10. a. Fire Fighter
    b. Flight Attendent
11. a. Beautician
    b. Car Mechanic
12. a. Telephone Repairperson
    b. Telephone Operator
13. a. X-Ray Technician
    b. Police Officer
14. a. Gas Station Attendent
    b. Waitress

VOCATIONAL ORIENTATION OF DAUGHTER

DAUGHTER # _____

AGE _____

I am going to tell you about some of the jobs that you might choose to do when you grow up. I am going to tell you about these jobs in pairs. Each time I describe two jobs to you, I will ask you to circle the one job in each pair which you think you would most like to do when you grow up. Be sure to circle one job and only one in each pair.

For example: Two jobs that I could tell you about are lawyer and dietitian.

A lawyer is a person who helps other people with legal difficulties and gives advice about laws.

A dietitian is a person who helps people learn what kinds of foods are best to eat.

If you would rather be a lawyer

then: circle "A"

If you would rather be a dietitian

then: circle "B"

A. LAWYER B. DIETITIAN

Now I am going to tell you about some other jobs.

1. Two other jobs I want to tell you about are nurse and pilot. A nurse is a person who helps doctors take care of patients. A pilot is a person who drives an airplane. When you grow up which do you think you would rather be. Circle "A" if you would rather be a nurse. Circle "B" if you would rather be a pilot.

A. NURSE B. PILOT

2. Now I am going to ask you to choose between the job of mail carrier and the job of bank teller. A mail carrier is a person who brings letters to people. A bank teller is a person who works at a bank and cashes checks and helps people put money in the bank. When you grow up which of these do you think you would rather be. Circle "A" if you would rather be a mail carrier. Circle "B" if you would rather be a bank teller.

A. MAIL CARRIER B. BANK TELLER

3. Now I am going to ask you to choose between the job of a cashier and a truck driver. A cashier is a person who collects money from people when they want to buy something at a store. A truck driver drives a truck so that things people need, like food can be sent from one place to another. When you grow up which of these would you rather be? Circle "A" if you would rather be a cashier. Circle "B" if you would rather be a truck driver.

A. CASHIER B. TRUCK DRIVER

4. Now I am going to ask you to choose between the job of a house painter and a clothes maker. A house painter is a person who paints houses and other buildings. A clothes maker sews material into clothes for people. When you grow up which would you rather be? Circle "A" if you would rather be a house painter. Circle "B" if you would rather be a clothes maker.

A. HOUSE PAINTER B. CLOTHES MAKER

5. Now I am going to ask you to choose between the job of a receptionist and a milk delivery person. A receptionist greets people when they come into an office and helps to make appointments. A milk delivery person brings milk to people's homes and restaurants. When you grow up which of these would you rather be? Circle "A" if you would rather be a receptionist. Circle "B" if you would rather be a milk delivery person.

A. RECEPTIONIST B. MILK DELIVERY PERSON

6. Now I am going to ask you to choose between the job of a veterinarian and of a teacher. A veterinarian is a doctor for animals and a teacher is someone who helps you learn new things. When you grow up which do you think you would rather be? Circle "A" if you would rather be a veternarian. Circle "B" if you would rather be a teacher.

A. VETERINARIAN B. TEACHER

7. Now I am going to ask you to choose between the job of a secretary and of a construction worker. A secretary types letters, takes messages, and helps with other office tasks. A construction worker builds houses and other buildings. When you grow up which of these would you rather be? Circle "A" if you would rather be a secretary. Circle "B" if you would rather be a construction worker.

A. SECRETARY B. CONSTRUCTION WORKER

8. Now I am going to ask you to choose between the job of a pharmacist and of a librarian. We sometimes call a pharmacist a druggist. A druggist is a person who prepares the medicine that your doctor wants you to have. A librarian is a person that helps people find books they would like to borrow from the library. When you grow up which of these would you rather be? Circle "A" if you would rather be a druggist. Circle "B" if you would rather be a librarian.

A. DRUGGIST B. LIBRARIAN

9. Now I am going to ask you to choose between the job of a maid and of a stock clerk. A maid is a person who cleans. A stock clerk is a person who puts things for sale on shelves at stores. At a grocery store, the stock clerk sometimes also bags groceries and carries them for customers. When you grow up which of these would you rather be? Circle "A" if you would rather be a maid. Circle "B" if you would rather be a stock clerk.

A. MAID B. STOCK CLERK

10. Now I am going to ask you to choose between the job of a fire fighter and of a flight attendent, sometimes called a stewardess. A fire fighter helps prevent fires and puts them out when a fire occurs. A flight attendent is a person who helps people who are traveling by plane have an enjoyable trip. They serve food and drinks to the people on the plane. When you grow up which of these would you rather be? Circle "A" if you would rather be a fire fighter. Circle "B" if you would rather be a flight attendent.

A. FIRE FIGHTER B. FLIGHT ATTENDENT

11. Now I am going to ask you to choose between the job of a beautician and of a car mechanic. A beautician helps to make people look their best by fixing their hair. A car mechanic is a person who fixes cars when the car does not run. When you grow up which of these would you rather be? Circle "A" if you would rather be a beautician. Circle "B" if you would rather be a car mechanic.

A. BEAUTICIAN B. CAR MECHANIC

12. Now I am going to ask you to choose between the job of a telephone operator and of a telephone repairperson. A telephone operator helps people make telephone calls. A telephone repairperson fixes telephone wires when they do not work. When you grow up which of these do you think you would rather be? Circle "A" if you would rather be a telephone operator. Circle "B" if you would rather be a telephone repairperson.

A. TELEPHONE OPERATOR B. TELEPHONE REPAIRPERSON

13. Now I am going to ask you to choose between the job of a police officer and of an X-ray technician. A police officer helps keep people safe and arrests people who break the law. An X-ray technician helps a doctor by taking pictures of a person's bones. When you grow up which of these do you think you would rather be? Circle "A" if you would rather be a police officer. Circle "B" if you would rather be an X-ray technician.

A. POLICE OFFICER B. X-RAY TECHNICIAN

14. Now I am going to ask you to choose between the job of a waitress and of a gas station attendent. A waitress is a person who takes orders for food and drinks at a restaurant. A gas station attendant is a person who helps people buy gas at gas stations, checks the oil and cleans the windshield of the car. When you grow up which of these would you rather be? Circle "A" if you would rather be a gas station attendant. Circle "B" if you would rather be a waitress.

A. WAITRESS B. GAS STATION ATTENDANT

APPENDIX D. LETTERS TO MOTHERS

Iowa State University of Science and Technology Ames, Iowa 50011

Child Development Department
101 Child Development Building
Telephone 515-294-3040

Dear

I am a graduate student in Child Development and Family Environment at Iowa State University, and I am presently working on my doctoral dissertation under the direction of Dr. Damaris Pease.

Since little is known about the development of vocational interests among girls, I am investigating how certain attributes of the mother and her daughter may influence the development of the daughter's vocational interests; and the relationship of those interests to masculine and feminine jobs.

In order to obtain this information, I am asking both mothers and daughters to participate. Each daughter will be asked to indicate vocational interests in typically masculine or feminine jobs and to complete Brown's It Scale which gives a measure of masculine or feminine play interests.

Each mother will be asked to complete a questionnaire in which she will provide certain demographic information, indicate her perceived and desired vocational interests for her daughter, and identify the extent to which a list of adjectives apply to the mother's personality.

Participation in the research is voluntary, and as soon as the responses of each mother are paired with the responses of her daughter, all identifying information will be destroyed. Be assured, all information gathered is strictly confidential and the right to privacy will be preserved.

After completing the questionnaire, please return it in the enclosed pre-addressed and stamped envelope. Be sure to sign the form attached to the questionnaire indicating your willingness to participate in the study. When your consent form is received, you will be contacted to set up an appointment which is convenient to you for your daughter to meet with the other daughters who are participating to complete the daughter portion of the research.

Thank you for your cooperation in this study. It is hoped that the information gathered from your responses and the responses of your daughter will make a valuable contribution to the understanding of the process of vocational development among girls. Should you wish additional information, please feel free to contact me at 292-5592.

Sincerely,

Judith Weeden-Morris

Approved by:

Dr. Damaris Pease
Distinguished Professor

Ames Community School District

DAVID L. MOORHEAD
Superintendent

Administrative Offices
120 South Kellogg
Ames, Iowa 50010
Phone: (515) 232-3400

LUTHER L. KISER
Assistant Superintendent
Curriculum and Instruction

PAUL J. SKARDA
Assistant Superintendent
Business and Finance

October 3, 1979

Dear Parent:

The enclosed letter is from Judith Weeden-Morris, a graduate student at I.S.U.

The Ames schools are cooperating with this research to the extent that we provided your name and address as a mother of a female student in grades 3 or 4. You will decide whether or not you and your daughter will cooperate with the request. If you sign the approval form, Judith Weeden-Morris will contact you to arrange a meeting with you and your daughter. If you approve and want your daughter's session held before or after school, we will provide a room.

You need take no action if you are not interested in participating in this research effort, but she will appreciate your participation.

Sincerely,

Luther Kiser

Luther L. Kiser, Ed.D.
Assistant Superintendent for
Curriculum and Instruction

LK/b

Enclosure